



National Institute on Alcohol Abuse and Alcoholism  
Division of Epidemiology and Prevention Research  
Alcohol Epidemiologic Data System

**SURVEILLANCE REPORT #70  
LIVER CIRRHOSIS MORTALITY IN  
THE UNITED STATES, 1970–2002**

Young-Hee Yoon, Ph.D.<sup>1</sup>  
Hsiao-ye Yi, Ph.D.<sup>1</sup>  
Michael E. Hilton, Ph.D.<sup>2</sup>

<sup>1</sup> CSR, Incorporated  
Suite 1000  
2107 Wilson Boulevard  
Arlington, VA 22201

<sup>2</sup> Division of Epidemiology and Prevention Research  
National Institute on Alcohol Abuse and Alcoholism  
5635 Fishers Lane, MSC 9304  
Bethesda, MD 20892-9304

**August 2005**

U.S. Department of Health and Human Services  
Public Health Service  
National Institutes of Health

CSR, Incorporated, operates the Alcohol Epidemiologic Data System (AEDS) under Contract No. N01AA32007 for the Division of Epidemiology and Prevention Research, National Institute on Alcohol Abuse and Alcoholism

## HIGHLIGHTS

This surveillance report, published by the National Institute on Alcohol Abuse and Alcoholism (NIAAA), presents trends in liver cirrhosis mortality in the United States. Data on the underlying cause of death were compiled from public use data tapes published annually by the National Center for Health Statistics (NCHS). Population data provided by the U.S. Census Bureau are used as denominators to calculate mortality rates.

Overall cirrhosis mortality in the United States increased steadily following the end of Prohibition in 1933 until 1973, when the age-adjusted death rate peaked at 18.1 deaths per 100,000 population. Cirrhosis mortality then began an almost steady decline that has continued through 2002, the most recent year for which data are available. The following are highlights of liver cirrhosis mortality trends from the early 1970s through 2002:

### Cirrhosis Mortality in 2002

- In 2002 liver cirrhosis was the 12th leading cause of death in the United States, with a total of 27,794 deaths, 309 more than in 2001.
- The crude death rate from all cirrhosis increased by 1.0 percent from 2001 to 2002, whereas the rate from alcohol-related cirrhosis declined by 2.3 percent.
- Among all cirrhosis deaths in 2002, 43.6 percent were alcohol-related. The proportion of alcohol-related cirrhosis was highest (60.2 percent) among decedents aged 35 to 44.
- The age-adjusted death rate from all liver cirrhosis for White Hispanic males was 1.9 times the rate for White non-Hispanic and for Black non-Hispanic males. The age-adjusted death rate from all liver cirrhosis for White Hispanic females was 1.5 times the rate for White non-Hispanic females and 1.6 times the rate for Black non-Hispanic females.

### Cirrhosis Mortality Trends

- While the age-adjusted all-cause mortality rate declined by 30.9 percent from 1970 to 2002, the age-adjusted death rate from all liver cirrhosis declined for the same period by 46.1 percent, from 17.8 to 9.6 deaths per 100,000 population. Rates for White males, Black males, White females, and Black females declined by 42.7, 67.2, 39.3, and 71.0 percent, respectively.
- The age-adjusted death rate from all liver cirrhosis for males was consistently more than twice the rate for females, regardless of race.
- The age-adjusted death rate from alcohol-related liver cirrhosis declined by 33.3 percent, from 6.3 deaths per 100,000 population in 1970 to 4.2 deaths per 100,000 population in 2002. Rates for White males, Black males, White females, and Black females declined by 23.5, 65.9, 29.0, and 70.9 percent, respectively.
- From 1970 through 2002 age-specific death rates from liver cirrhosis decreased among individuals below age 75. Over this same period there were fluctuations in cirrhosis mortality rates that showed slight increases among individuals aged 75 and older.

### Healthy People 2010 Objectives

- One of the *Healthy People 2010* objectives is to reduce liver cirrhosis mortality to no more than 3.0 deaths per 100,000 population. To achieve this goal, the age-adjusted death rates from cirrhosis must decrease by 14 percent per year from 2002 through 2010.

## INTRODUCTION

This surveillance report on liver cirrhosis is one of a series of four reports published annually to monitor trends in alcohol consumption and alcohol-related morbidity and mortality in the United States. These surveillance reports are prepared by the Alcohol Epidemiologic Data System (AEDS), Division of Epidemiology and Prevention Research, NIAAA and are intended to be useful to researchers, policymakers, and other professionals interested in alcohol abuse and its long-term effects. The data also are essential in assessing changes toward meeting the Nation's health promotion and disease prevention objective to reduce liver cirrhosis mortality as stated in *Healthy People 2010* (Department of Health and Human Services [DHHS] 2000).

Cirrhosis of the liver is an outcome of a variety of causes including alcohol consumption, exposure to various drugs and toxic chemicals, viral hepatitis, and other viral and infectious diseases (Dufour et al. 1993). It has been estimated that alcohol consumption is a major contributor in 41 to 95 percent of deaths from cirrhosis and the related condition of alcoholic hepatitis (Day 1977). Based on these percentages, 11,396 to 26,404 of the cirrhosis deaths in 2002 can be attributed to excessive alcohol use.

The level and duration of alcohol consumption are important determinants in the development of liver pathology. As the primary site for detoxification of alcohol by oxidation of its metabolites, the liver can undergo the following pathologies: fatty liver, alcoholic hepatitis, and cirrhosis. The prognosis for patients with cirrhosis is highly unpredictable. Although some patients can benefit from a liver transplant, no method currently exists for repairing liver damage associated with cirrhosis. However, the consequences of this disease can be treated, and life can be prolonged, if patients with cirrhosis resulting from alcohol consumption abstain from further alcohol use. Thus, early

detection and prevention of further damage are important in prolonging life.

The coding scheme used in the United States to classify cause of death is the International Classification of Diseases (ICD), a statistical classification of disease and injury widely used by countries supporting mortality reporting systems. ICD codes classify the cause of death from cirrhosis as either related to alcohol or not related to alcohol. Because some stigma still exists for excessive alcohol use, physicians and other officials who certify causes of death may not identify alcohol in the case of a death from cirrhosis in an effort to protect family members. From 1970 to 2002, the proportion of all cirrhosis deaths coded as alcohol-related ranged from 36 to 48 percent (depending on year), even though some researchers believe alcohol might have contributed to a substantially higher proportion of all deaths from cirrhosis (Haberman and Weinbaum 1990; Powell and Klatskin 1968). For this reason, this surveillance report examines all cirrhosis deaths, as well as those that are explicitly coded as alcohol-related.

## DATA AND MEASURES

### Sources and Limitations of Data

Death counts and rates in this report are based on a single underlying cause for each death, defined as "the disease or injury which initiated the train of morbid events leading directly or indirectly to death or circumstances of the accident or violence which produced the fatal injury" (NCHS 1982). This approach is consistent with other mortality statistics reported by NCHS.

Cirrhosis death records for 1970 through 2002 were extracted from public use mortality data files produced by NCHS. With the exception of data files for 1972, these files contain individual records for each death occurring in the United States, and in 1972 the files contained a 50-percent sample of all U.S. deaths. The deaths counted in this report are for U.S. residents only. Deaths of foreign residents in the United States are not counted.

Mortality statistics for the years 1910 through 1969 were taken from special reports published by NCHS, as summarized and described in an NIAAA data reference manual on cirrhosis mortality (NIAAA 1985). These reports were prepared from numbers obtained through State death registration offices. Prior to 1933 not all States collected death registration information. The changing number of death registration States impedes the process of obtaining comparable mortality data for the United States prior to 1933.

Population data from 2000 through 2002 came from bridged-race Vintage postcensal estimates of the resident population of the United States, developed for NCHS by the U.S. Census Bureau (NCHS 2003a; NCHS 2004). Population data for years 1990 through 1999 came from bridged-race intercensal resident population estimates developed for NCHS by the U.S. Census Bureau (NCHS 2003b). Population data for 1970 through 1989 came from estimates developed for the National Cancer Institute (NCI) by the U.S. Census Bureau (NCI 2002). Population data for 1910 through 1969 were estimated using the numbers of cirrhosis deaths and the age-specific death rates reported in an NIAAA data reference manual on cirrhosis mortality (NIAAA 1985).

### **Definitions and Subclassifications of Liver Cirrhosis**

During the period for which mortality statistics are shown in this report, cause of death was classified according to nine different revisions of the ICD. The ICD has been revised periodically to reflect progress in medical knowledge, with later revisions generally providing greater specificity of coding.

The eighth (NCHS 1968), ninth (World Health Organization [WHO] 1978), and tenth (WHO 1992) revisions of the ICD (introduced in 1968, 1979, and 1999, respectively) provide for coding categories of cirrhosis with and without mention of alcohol. The eighth revision, abbreviated "ICDA-8," was specially adapted for use in the United States. The ninth revision, ICD-9, uses different categories for

cirrhosis than ICDA-8. The tenth revision, ICD-10, uses twice as many categories for cirrhosis as ICD-9. To examine trends for comparable diseases from 1970 through 2002, ICD-9 and ICD-10 categories must be matched and recoded to those consistent with ICDA-8 categories. The relevant crosswalk of the three ICD revisions, developed by AEDS staff in collaboration with NIAAA's former Division of Biometry and Epidemiology (DBE), is shown in the table on the following page. As can be seen under ICD-10 in the crosswalk table, AEDS includes portal hypertension (ICD code K76.6) and change of fatty liver not elsewhere classified (ICD code K76.0) among cirrhosis deaths. Because NCHS counts only ICD codes K70, K73, and K74 as liver cirrhosis, AEDS' numbers are slightly larger than those reported by NCHS.

With the introduction of ICD-10 for 1999 data came changes in rules for selecting the underlying cause of death and new categories. These new rules and categories may contribute to observed changes in the number of deaths from liver cirrhosis. Anderson et al. (2001) conducted a comparability study estimating that the use of ICD-10 would classify an additional 3.67 percent of deaths as due to cirrhosis when compared with ICD-9. Readers should keep this in mind when examining trends involving data from 1999 and later years.

### **Race or Ethnicity of Decedent**

Data are presented in this report by White and Black race categories, with other races such as American Indian/Alaska Native and Asian/Pacific Islander included in the "all races" category but not shown separately. Vital statistics data also provide information on the ethnicity of decedents (i.e., Mexican, Puerto Rican, Cuban, Central or South American, other or unknown Hispanic, or non-Hispanic). However, prior to 1991, substantial proportions of decedents were missing ethnic identification, and Hispanic origin measures were not usable. Beginning with the 1999 issue of this report (Saadatmand et al. 1999), trend data on

Hispanic origin were presented for the years of 1991 and later.

The first year in which all 50 States and the District of Columbia included Hispanic origin of decedents on their death certificates was 1997. In 2002 only 0.4 percent of cirrhosis decedents had an “unknown” classification for Hispanic origin. From 1991 through 2002 the percentage of cirrhosis deaths with Hispanic origin unknown was less than 2 percent for both Black and White decedents. The tables and figures showing data based on Hispanic origin excluded decedents for whom Hispanic origin

could not be determined. Readers are cautioned that rates calculated for Black Hispanics are unreliable because of the small number of cirrhosis deaths in this population subgroup.

## METHODS

Statements of disease frequency, expressed as the number of deaths due to liver cirrhosis, have little epidemiologic usefulness because such information does not permit either comparisons of mortality among various population subgroups or the description of trends over time. For epidemiologic purposes, death rates are used to compare the frequency

Crosswalk of ICD-10 codes to ICD-9 codes and ICDA-8 codes

ICD-10	ICD-9	ICDA-8
K70.0 Alcoholic fatty liver	571.0 Alcoholic fatty liver	571.0 Alcohol-related liver cirrhosis
K70.1 Alcoholic hepatitis	571.1 Acute alcoholic hepatitis	
K70.2 Alcoholic fibrosis and sclerosis of liver	571.2 Alcoholic cirrhosis of liver	
K70.3 Alcoholic cirrhosis of liver		
K70.9 Alcoholic liver disease, unspecified	571.3 Alcoholic liver damage, unspecified	
K70.4 Alcoholic hepatic failure <sup>1</sup>	303 & Alcohol dependence 572.8 syndrome and chronic hepatic failure	
K73.0 Chronic persistent hepatitis, not elsewhere classified (n.e.c.) K73.1 Chronic lobular hepatitis, n.e.c. K73.2 Chronic active hepatitis, n.e.c. K73.8 Other chronic hepatitis, n.e.c. K73.9 Chronic hepatitis, unspecified	571.4 Chronic hepatitis	571.8 Specified liver cirrhosis without mention of alcohol
K74.3 Primary biliary cirrhosis K74.4 Secondary biliary cirrhosis K74.5 Biliary cirrhosis, unspecified	571.6 Biliary cirrhosis	
K76.0 Fatty (change of) liver, n.e.c. <sup>2</sup>	571.8 Other chronic nonalcoholic liver disease	
K76.6 Portal hypertension <sup>2</sup>	572.3 Portal hypertension	
K74.0 Hepatic fibrosis K74.2 Hepatic fibrosis with hepatic sclerosis K74.6 Other and unspecified cirrhosis of liver	571.5 Cirrhosis of the liver without mention of alcohol	571.9 Unspecified liver cirrhosis without mention of alcohol
K74.1 Hepatic sclerosis	571.9 Unspecified liver cirrhosis without mention of alcohol	

<sup>1</sup> A new title in ICD-10 that requires the coexistence of two ICD-9 codes.

<sup>2</sup> Not defined as liver cirrhosis by NCHS.

of death from a disease or condition. The following measures of disease frequency are used in this report to assess trends in liver cirrhosis mortality:

- ***Unadjusted (or crude) death rates***—  
Unadjusted (or crude) death rates are summary measures calculated by dividing the total number of deaths due to cirrhosis (or subcategories) in the population in a certain year by the total number of individuals in that population in that year (i.e., population at risk). Problems can arise when comparing crude rates between various years to assess any change in mortality over time because the populations at risk may be different with respect to an underlying characteristic such as age, race, or sex. For example, an older population tends to have a higher rate of death for a target disease than a younger population because death from disease is more common in an aging population. In this case, rates in different populations should be assessed by comparing age-specific rates or age-adjusted rates.
- ***Age-specific death rates***—Age-specific death rates for any year refer to the number of deaths due to liver cirrhosis (or subcategories) in a defined age interval, divided by the total number of persons in that age interval. For a given age interval, examining age-specific rates for various years allows comparison of mortality rates among subgroups of the population that do not differ in their age distribution. Age-specific rates also provide a basis for detailed study of the variation of mortality rates among different age intervals in any single year.
- ***Age-adjusted death rates***—Age-adjusted death rates are statistically constructed summary rates that account for differences in mortality regardless of any difference in the age distribution between populations. Age adjustment assumes that populations have the same age distribution and applies a standard age distribution to calculate age-adjusted rates for various populations. Therefore, when comparing age-adjusted

rates of two populations, any differences between the rates can no longer be due to the difference in the age distribution between the two populations. Age adjustment is crucial for standardizing rates over many years because the U.S. population has grown progressively older in recent decades. Without age adjustment, any apparent increases in unadjusted mortality rates for cirrhosis (or any other disease) could be caused by the fact that older people are more likely to die from disease.

The age distribution of the 1940 U.S. population was used as the standard to calculate all age-adjusted rates in issues of this surveillance report published before 2002. During the period from 1940 to 2000 the proportion of the U.S. population ages 65 years and older almost doubled (from 6.8 percent to 12.6 percent). To better reflect the current population age structure, the U.S. Department of Health and Human Services (1998) requires the use of the year 2000 standard population with mortality data for 1999 and later years. Therefore, beginning with the year 2002 issue of this report, all age-adjusted death rates have been computed based on the 2000 standard population, replacing the previously published rates based on the 1940 standard population.<sup>1</sup>

Age-adjusted death rates presented in this report were computed by using 10-year age

---

<sup>1</sup> Standard population age distribution:

Age group	Number	
	1940	2000
0 to 4 years	80,061	69,135
5 to 14 years	170,355	145,565
15 to 24 years	181,677	138,646
25 to 34 years	162,066	135,573
35 to 44 years	139,237	162,613
45 to 54 years	117,811	134,834
55 to 64 years	80,294	87,247
65 to 74 years	48,426	66,037
75 to 84 years	17,303	44,842
85+ years	2,770	15,508
All ages	1,000,000	1,000,000

intervals of the enumerated population of the United States in 2000 as the standard population. Results from the age adjustment allow for meaningful comparison of similar rates over long periods of time or from different subpopulations. The basic procedure involves finding the expected number of deaths that would have existed if the age-specific rates for a particular year prevailed in a population whose age distribution was like that of the United States in 2000. This was accomplished by multiplying the specific rates for each age group by the population for the corresponding age group in the standard population. The age-adjusted mortality rate was calculated by adding the expected deaths for each age group and then dividing this sum by the total population taken as the standard.

## REFERENCES

- Anderson, R.N.; Minino, A.M.; Hoyert, D.L.; and Rosenberg, H.M. Comparability of cause of death between ICD-9 and ICD-10: Preliminary estimates. *National Vital Statistics Reports*, Vol. 49, No. 2. Hyattsville, MD: NCHS, 2001.
- Day, N. Alcohol and mortality. Unpublished paper prepared for the NIAAA under Contract No. NIA-76-10(p), 1977.
- Department of Health and Human Services. *HHS Policy for Changing the Population Standard for Age Adjusting Death Rates*. Memorandum from the Secretary. Available on the DHHS Web site at <http://aspe.hhs.gov/datacncl/ageadj.htm>. Washington, DC: DHHS, August 26, 1998.
- Department of Health and Human Services. *Healthy People 2010. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health*. Vol. II. Washington, DC: U.S. Government Printing Office, November, 2000.
- Dufour, M.C.; Stinson, F.S.; and Caces, M.F. Trends in cirrhosis morbidity and mortality: United States, 1979–1988. *Seminars in Liver Disease* 13(2):109–125, 1993.
- Haberman, P.W., and Weinbaum, D.F. Liver cirrhosis with and without mention of alcohol as cause of death. *British Journal of Addiction* 85(2):217–222, 1990.
- National Cancer Institute. *U.S. Population Data*. Available on the NCI Web site at <http://seer.cancer.gov/popdata/download.html>. 2002.
- National Center for Health Statistics. *Eighth Revision, International Classification of Diseases Adapted for Use in the United States*. DHEW Pub. No. PHS 1693. Washington, DC: U.S. Government Printing Office, 1968.
- National Center for Health Statistics. *Instructions for Classifying the Underlying Cause of Death*, 1983. Hyattsville, MD: NCHS, September 1982.
- National Center for Health Statistics. *Bridged-race Intercensal estimates of the July 1, 1990–July 1, 1999, United States resident population by State, county, age group, sex, race, and Hispanic origin*, prepared by the U.S. Census Bureau with support from National Cancer Institute. Available on the NCHS Web site at <http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm>. April 15, 2003a.
- National Center for Health Statistics. *Estimates of the July 1, 2000–July 1, 2002, United States resident population from the Vintage 2002 postcensal series by year, county, age, sex, race, and Hispanic origin, prepared under a collaborative arrangement with the U.S. Census Bureau*. Available on the NCHS Web site at <http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm>. August 1, 2003b.
- National Center for Health Statistics. *Estimates of the July 1, 2000–July 1, 2003, United States resident population from the Vintage 2003 postcensal series by year, county, age, sex, race, and Hispanic origin, prepared under a collaborative arrangement with the U.S. Census Bureau*. Available on the NCHS Web site at <http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm>. September 14, 2004.
- National Institute on Alcohol Abuse and Alcoholism (Alcohol Epidemiologic Data System). *Liver Cirrhosis Mortality in the United States* [U.S. Alcohol Epidemiologic Data Reference Manual, Volume 2]. Rockville, MD: DHHS, PHS, September 1985.
- Powell, W.J., and Klatskin, G. Duration of survival in patients with Laennec's cirrhosis: Influence of alcohol withdrawal, and possible effects of recent changes in general management of the disease. *American Journal of Medicine* 44:406, 1968.
- Saadatmand, F., Stinson, F.S., Grant, B.F., and Dufour, M.C. *Surveillance Report #52: Liver Cirrhosis Mortality in the United States, 1970–96*. Rockville, MD: NIAAA, DBE, AEDS, 1999.
- World Health Organization. *International Classification of Diseases, 9th Revision*. Geneva, Switzerland: WHO, 1978.
- World Health Organization. *International Classification of Diseases and Related Health Problems, Tenth Revision*. Geneva, Switzerland: WHO, 1992.

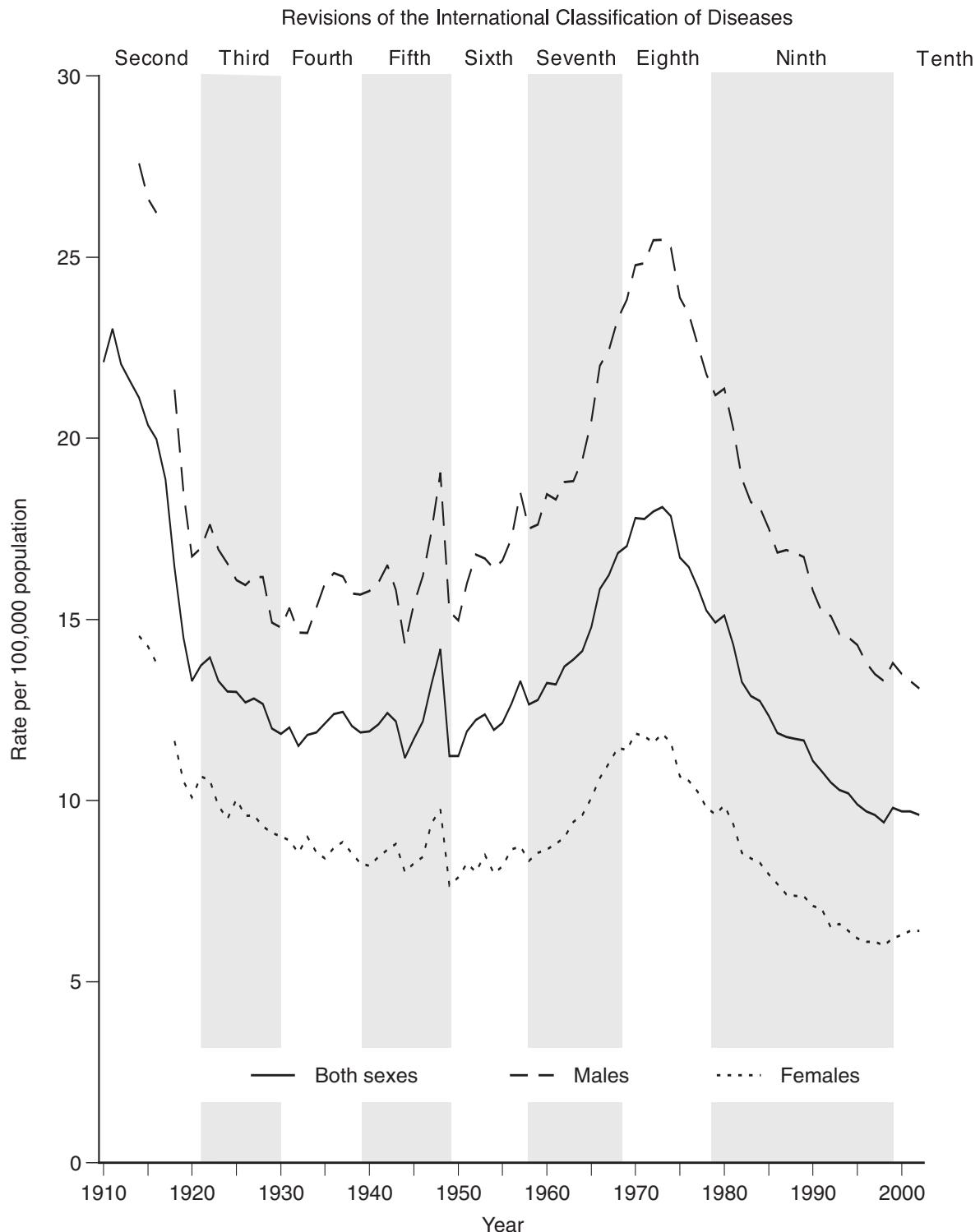
## List of Figures

	Page□
Figure 1 Age-adjusted death rates of liver cirrhosis by sex (death registration □ States, 1910–1932, and United States, 1933–2002) .....	9
Figure 2 Age-adjusted death rates of liver cirrhosis by sex and race, United States, □ 1970–2002 .....	10
Figure 3 Age-specific death rates of liver cirrhosis, United States, 1970–2002 .....	11□
Figure 4 Age-specific death rates of liver cirrhosis by race and sex, United States,□ 1970–2002 .....	12
Figure 5 Age-adjusted death rates of liver cirrhosis by sex, race, and Hispanic origin,□ United States, 1970–2002 .....	14
Figure 6 Age-adjusted death rates of liver cirrhosis reported with and without mention □ of alcohol, United States, 1970–2002 .....	15
Figure 7 Percent of all cirrhosis deaths coded as alcohol-related by age, United States,□ 1970–2002 .....	16
Figure 8 Age-adjusted death rates of alcohol-related liver cirrhosis by sex, race, and□ Hispanic origin, United States, 1970–2002 .....	17
Figure 9 Age-adjusted death rates of specified liver cirrhosis without mention of □ alcohol by sex, race, and Hispanic origin, United States, 1970–2002 .....	18
Figure 10 Age-adjusted death rates of unspecified liver cirrhosis without mention of □ alcohol by sex, race, and Hispanic origin, United States, 1970–2002 .....	19

## List of Tables

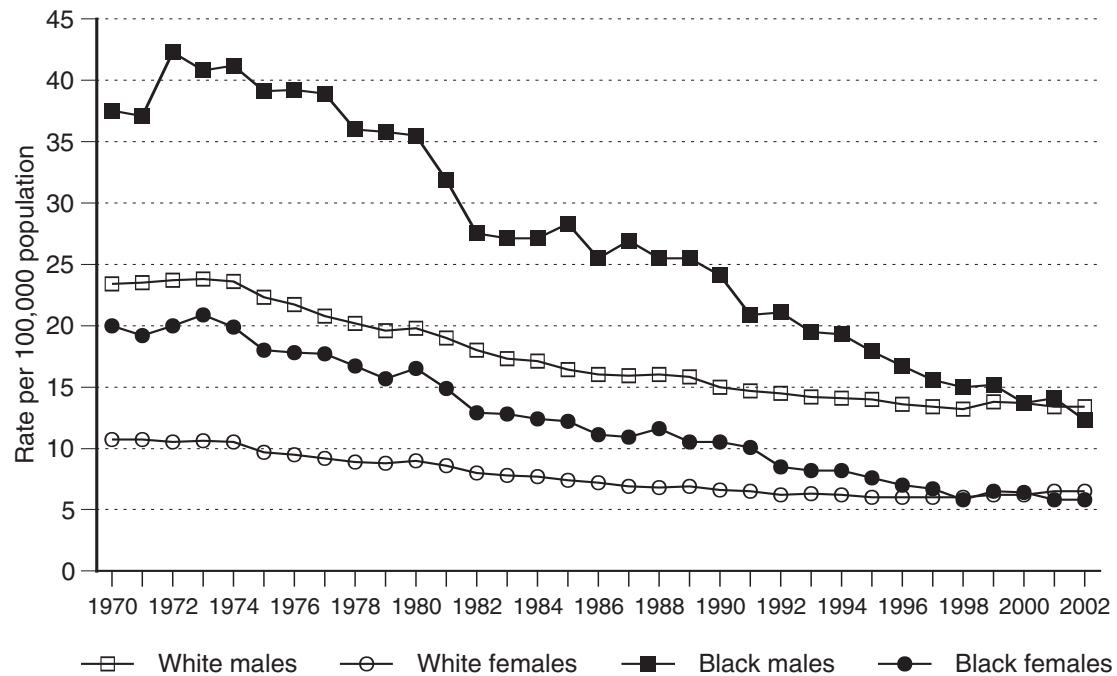
	Page
Table 1□ Age-adjusted death rates from liver cirrhosis by sex (death registration States, 1910–1932, and United States, 1933–2002) .....	20
Table 2□ Age-specific number of deaths, age-specific death rates, and age-adjusted death rates from all liver cirrhosis by race, Hispanic origin, and sex, United States, 1970–2002 .....	22
Table 3□ Age-specific number of deaths, age-specific death rates, and age-adjusted death rates from liver cirrhosis with and without mention of alcohol, United States, 1970–2002 .....	30
Table 4□ Age-adjusted death rates from liver cirrhosis with and without mention of alcohol by sex, race, and Hispanic origin, United States, 1970–2002 .....	33

**Figure 1.** Age-adjusted death rates of liver cirrhosis by sex (death registration States, 1910–1932, and United States, 1933–2002).

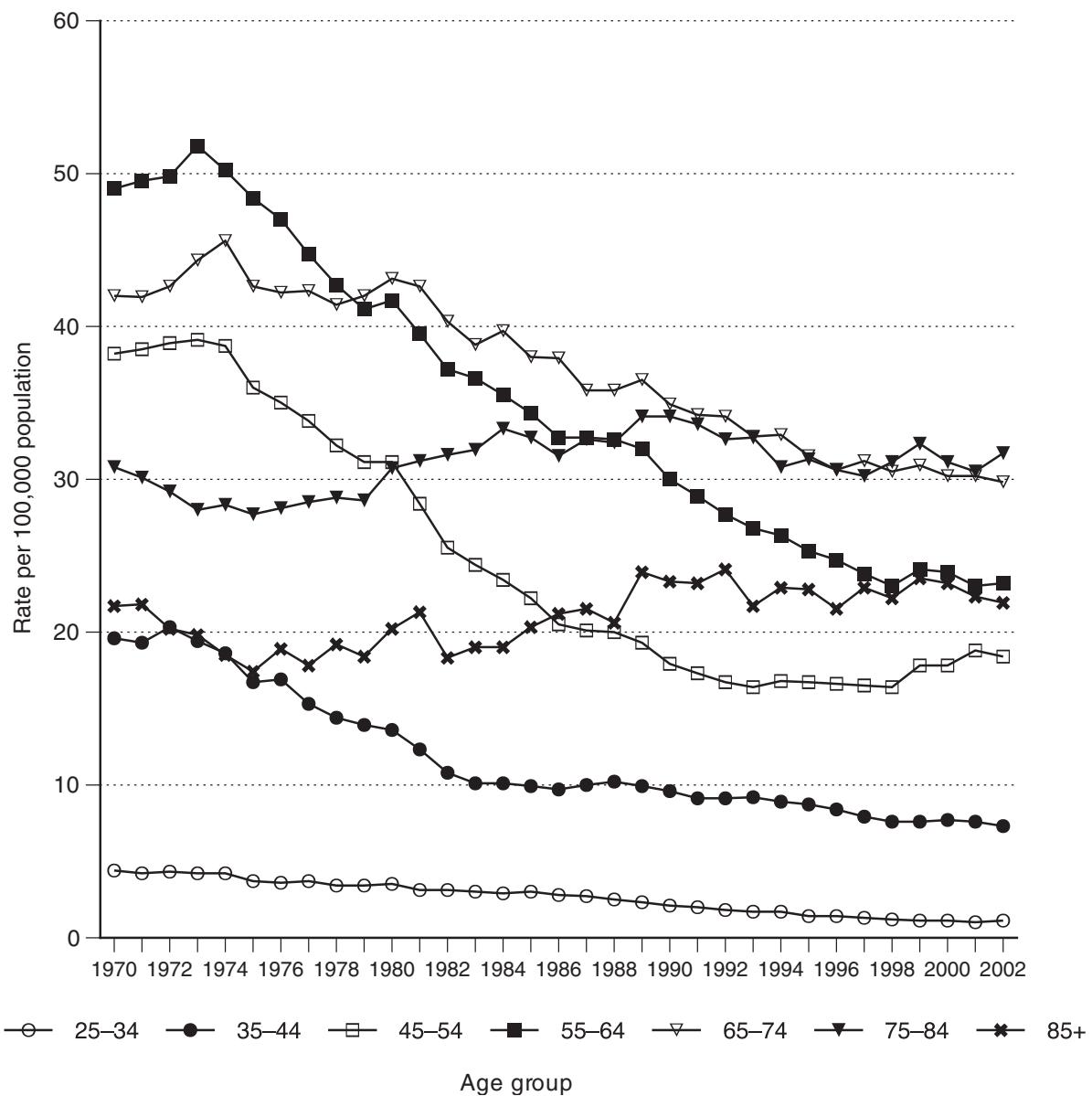


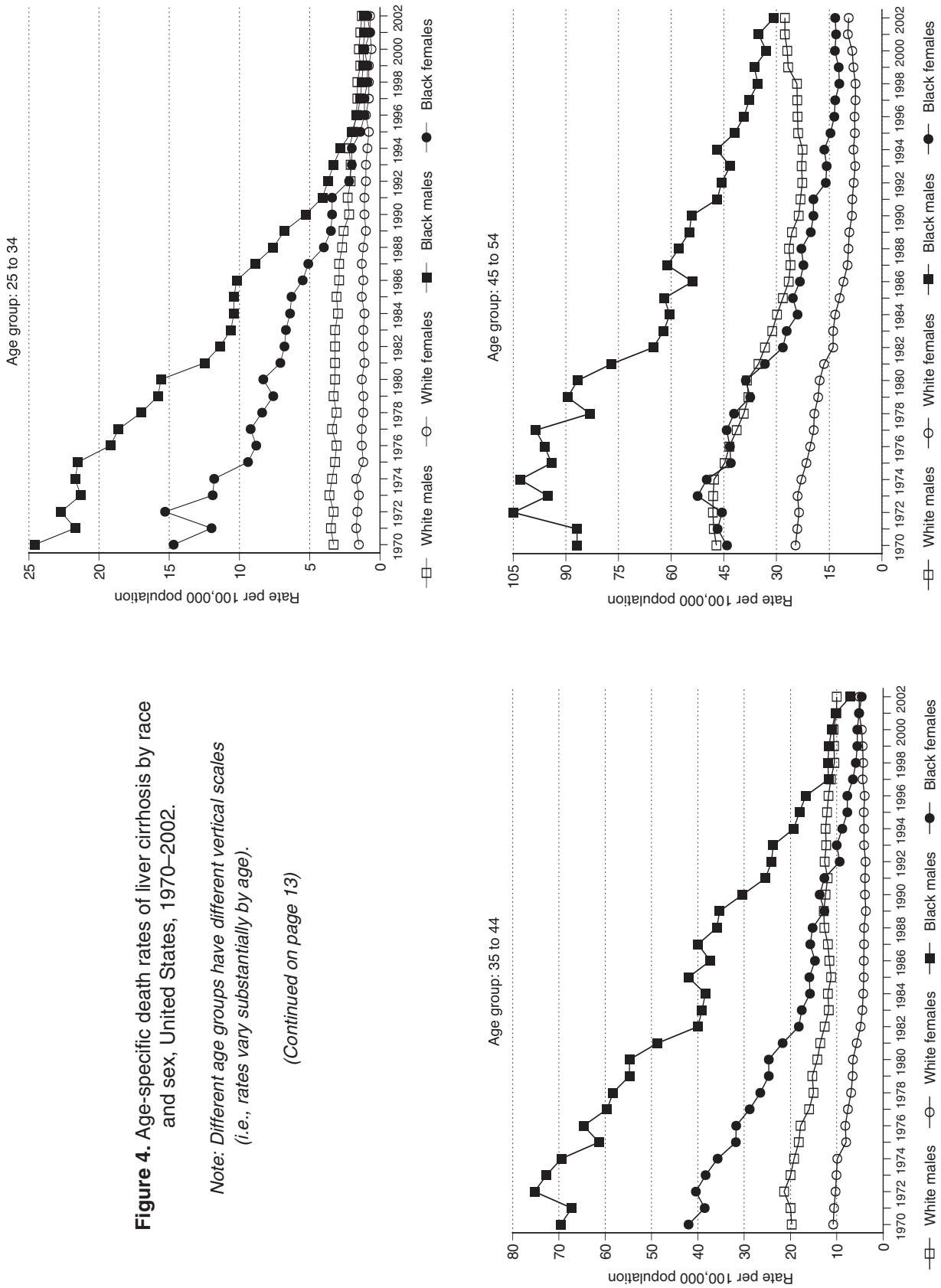
\* Because there was no information available on deaths by sex for 1910–1913, and 1917, age-adjusted death rates for males and females based on the year 2000 standard population were not calculated for those years.

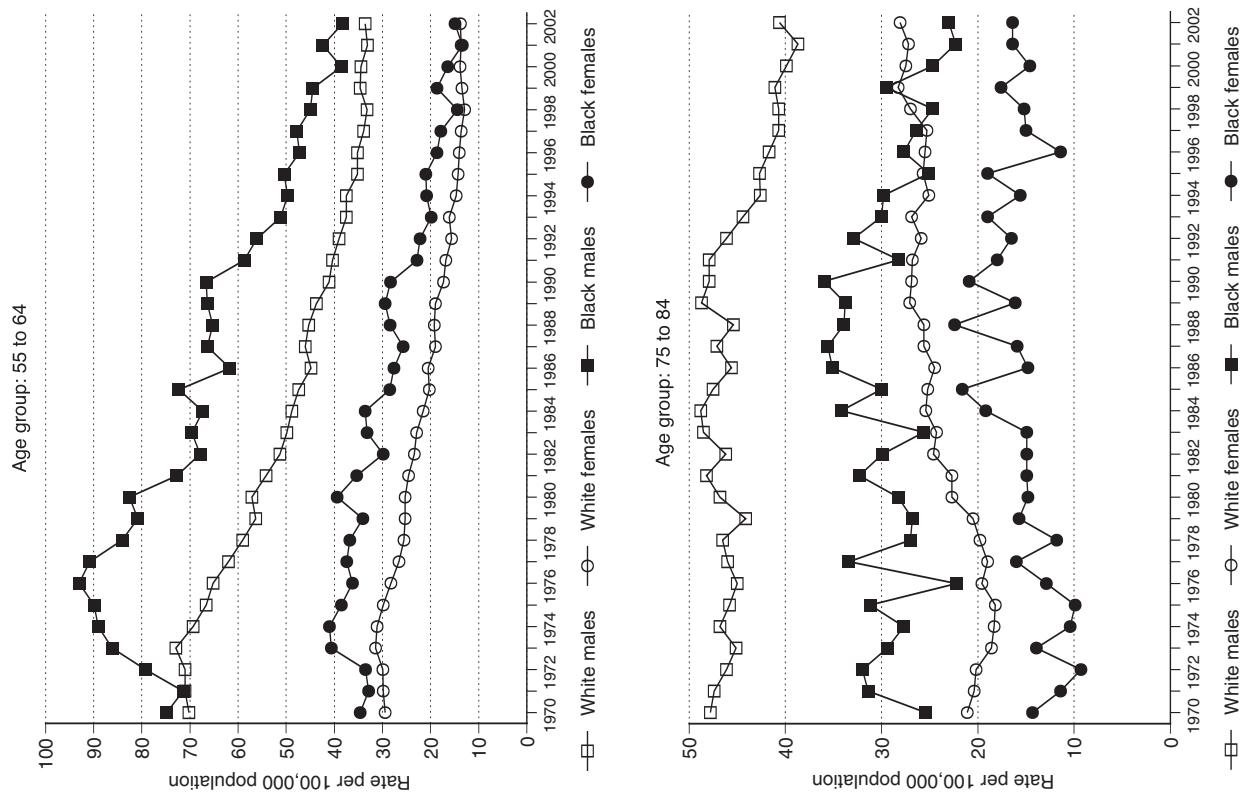
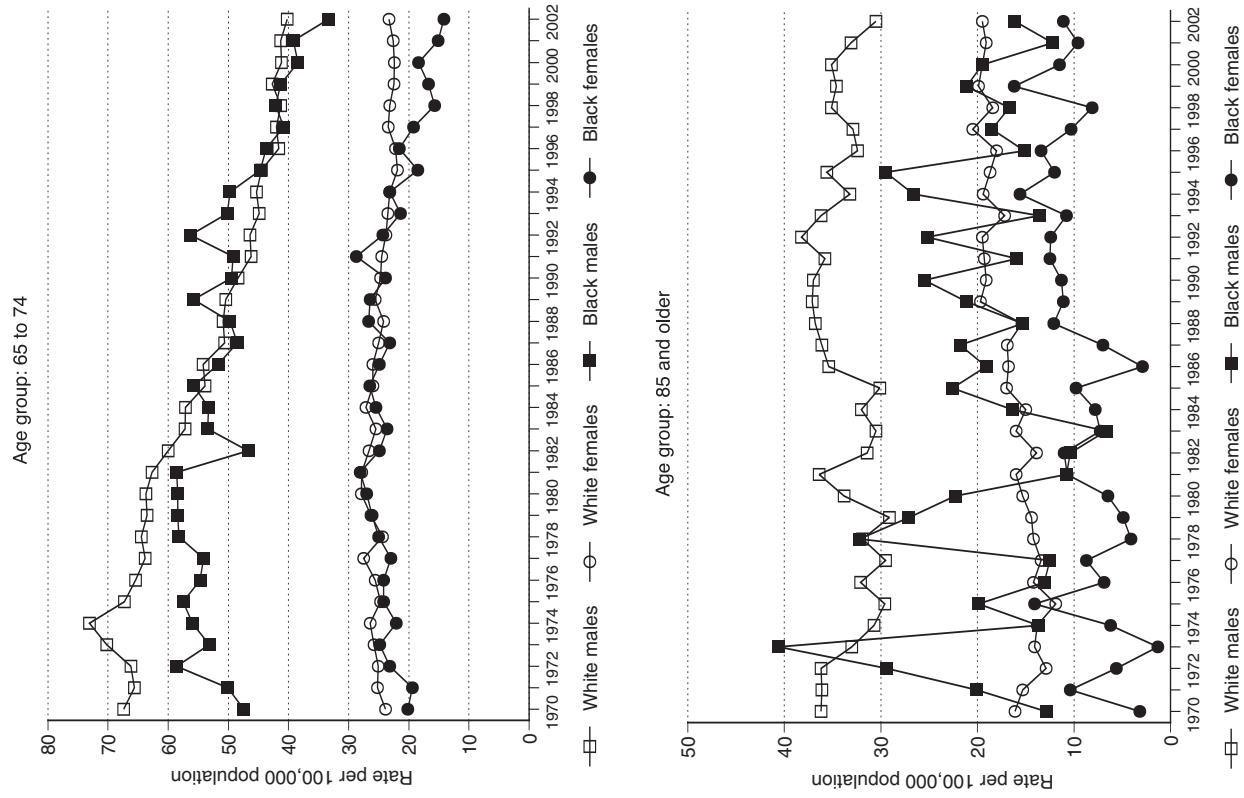
**Figure 2.** Age-adjusted death rates of liver cirrhosis by sex and race,  
United States, 1970–2002.



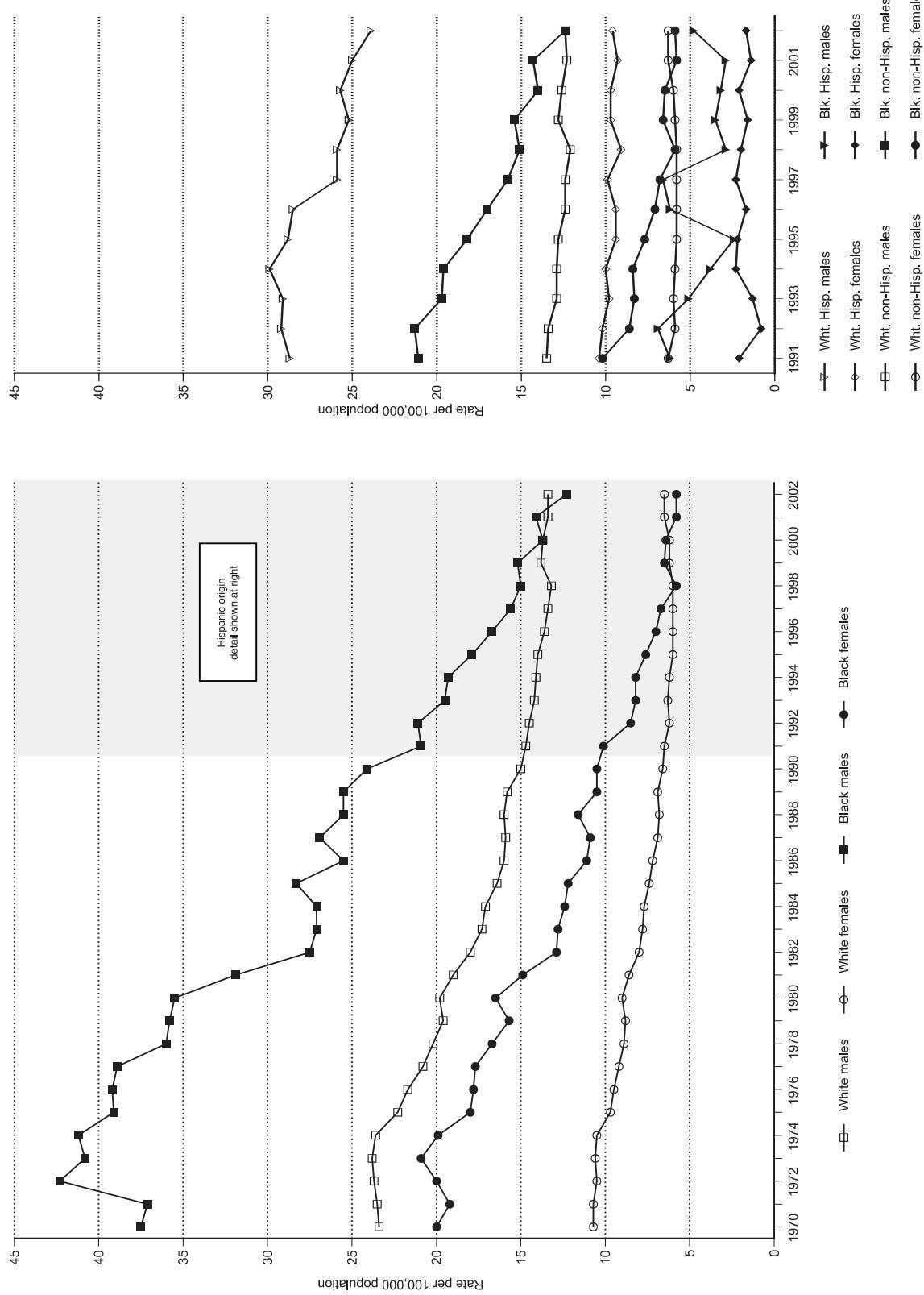
**Figure 3.** Age-specific death rates of liver cirrhosis, United States, 1970–2002.



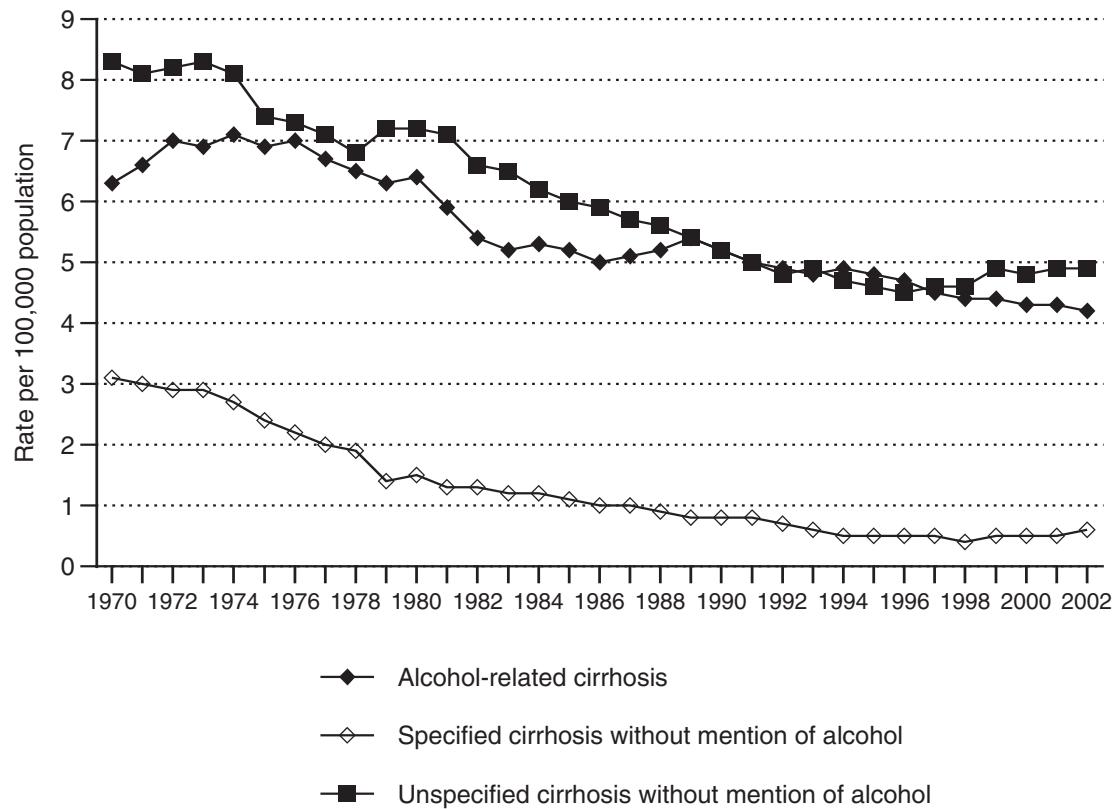




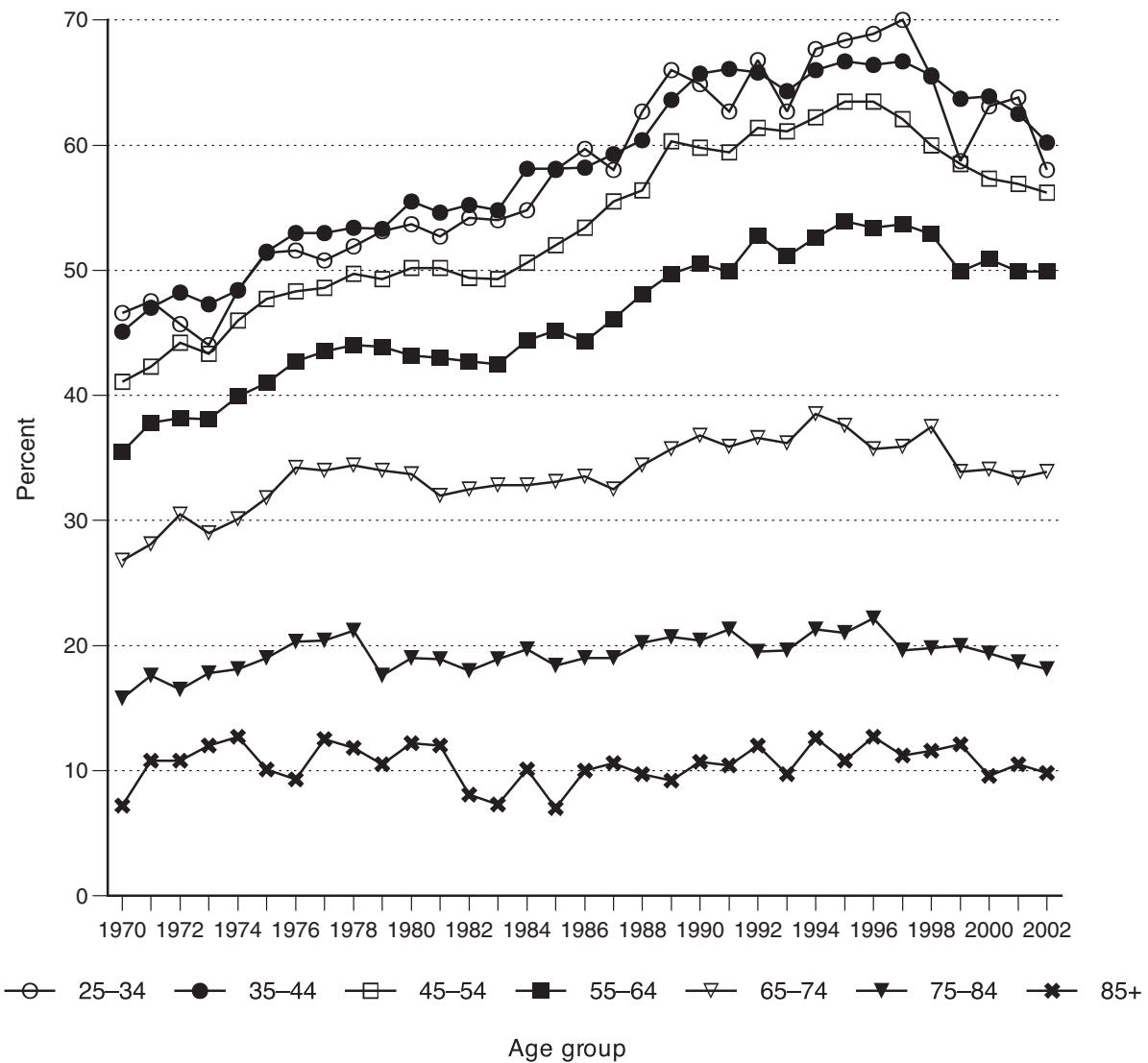
**Figure 5.** Age-adjusted death rates of liver cirrhosis by sex, race, and Hispanic origin, United States, 1970–2002.



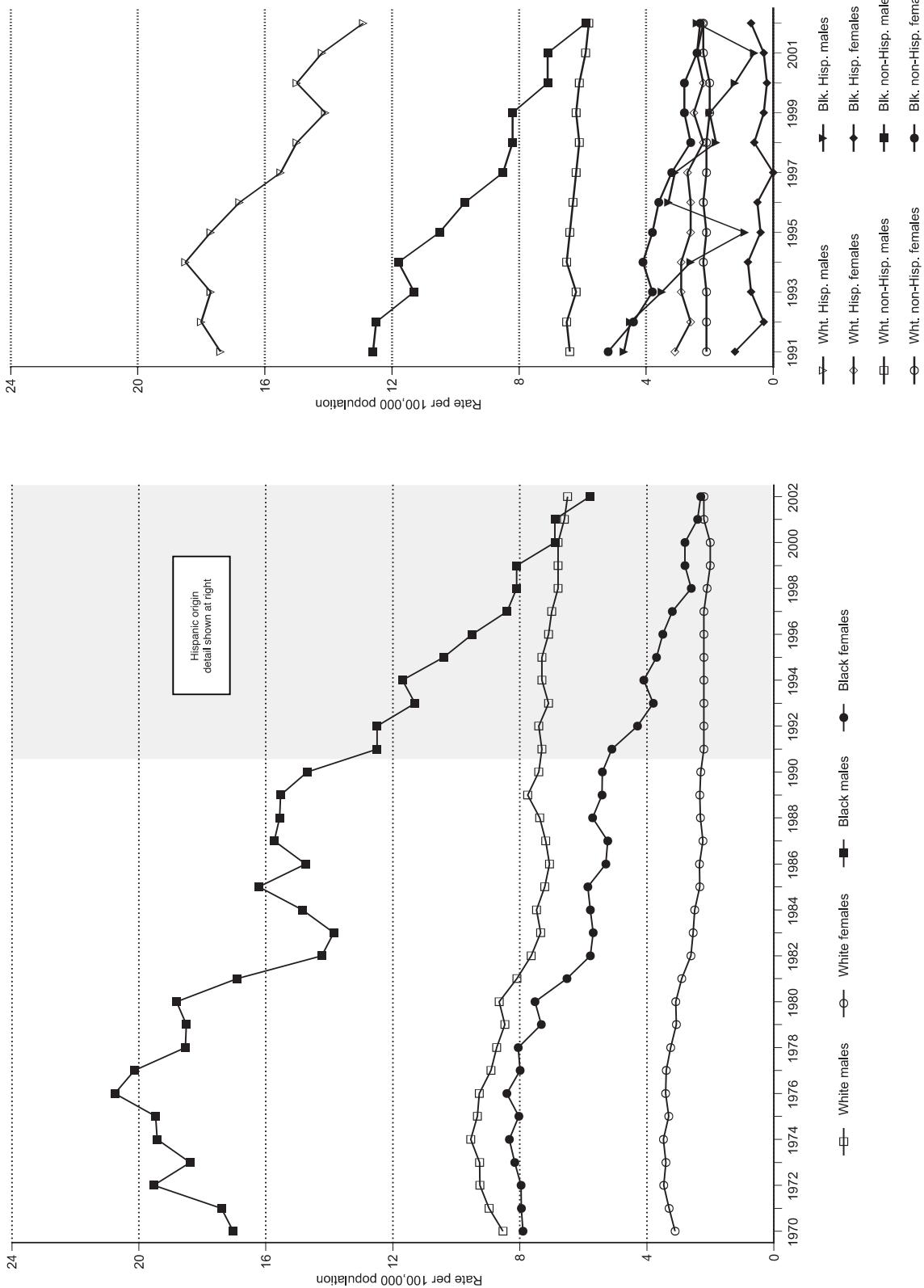
**Figure 6.** Age-adjusted death rates of liver cirrhosis reported with and without mention of alcohol, United States, 1970–2002.



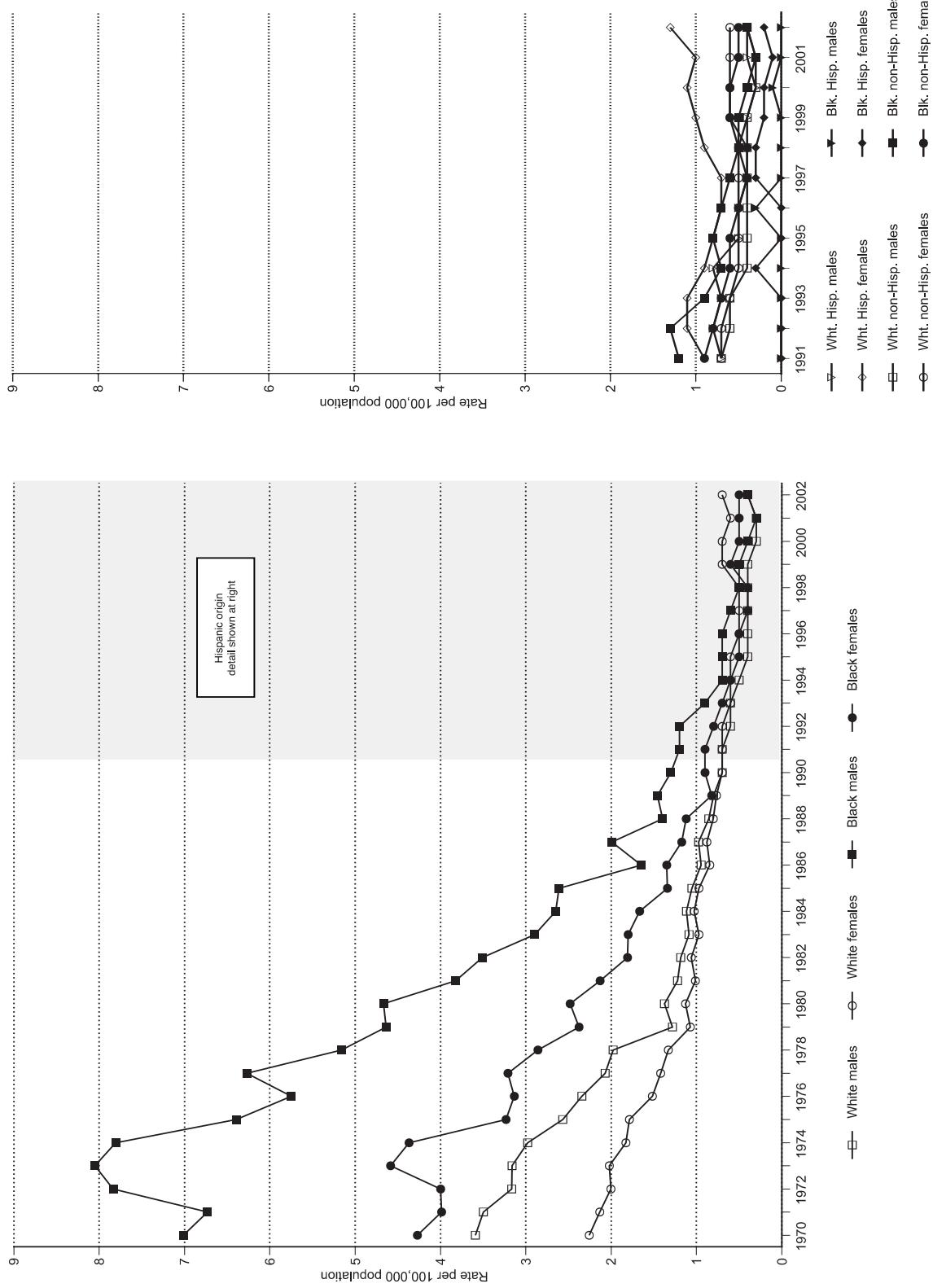
**Figure 7.** Percent of all cirrhosis deaths coded as alcohol-related by age, United States, 1970–2002.



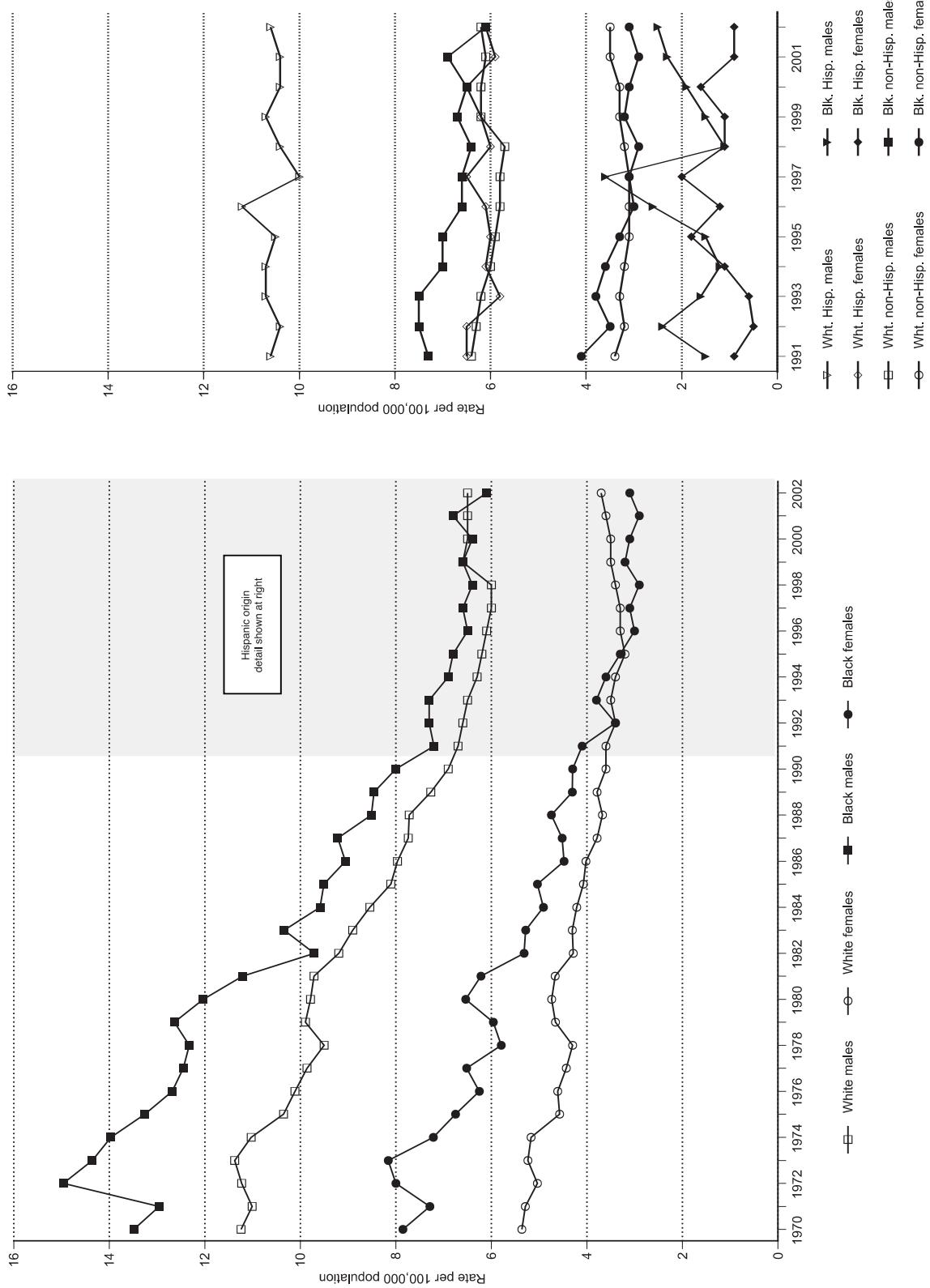
**Figure 8.** Age-adjusted death rates of alcohol-related liver cirrhosis by sex, race, and Hispanic origin, United States, 1970–2002.



**Figure 9.** Age-adjusted death rates of specified liver cirrhosis without mention of alcohol by sex, race, and Hispanic origin, United States, 1970–2002.



**Figure 10.** Age-adjusted death rates of unspecified liver cirrhosis without mention of alcohol by sex, race, and Hispanic origin, United States, 1970–2002.



**Table 1.** Age-adjusted death rates<sup>1</sup> from liver cirrhosis by sex (death registration States, 1910–1932, and United States, 1933–2002).

Year	Age-adjusted death rates					
	Based on 1940 standard population			Based on 2000 standard population		
	Both sexes	Males	Females	Both sexes	Males	Females
2002 .....	7.3	10.1	4.7	9.6	13.1	6.4
2001 .....	7.4	10.3	4.7	9.7	13.3	6.4
2000 .....	7.4	10.4	4.6	9.7	13.5	6.3
1999 .....	7.4	10.6	4.5	9.8	13.8	6.2
1998 .....	7.1	10.2	4.4	9.4	13.3	6.0
1997 .....	7.3	10.4	4.5	9.6	13.5	6.1
1996 .....	7.4	10.6	4.5	9.7	13.8	6.1
1995 .....	7.6	11.0	4.6	9.9	14.3	6.2
1994 .....	7.8	11.2	4.8	10.2	14.5	6.4
1993 .....	7.9	11.3	4.9	10.3	14.6	6.6
1992 .....	8.0	11.6	4.9	10.5	15.1	6.5
1991 .....	8.3	11.8	5.2	10.8	15.2	7.0
1990 .....	8.6	12.2	5.3	11.1	15.8	7.1
1989 .....	9.1	13.0	5.6	11.7	16.7	7.4
1988 .....	9.2	13.2	5.6	11.7	16.8	7.4
1987 .....	9.2	13.3	5.7	11.8	16.9	7.4
1986 .....	9.3	13.2	6.0	11.9	16.8	7.7
1985 .....	9.7	13.8	6.2	12.3	17.5	8.0
1984 .....	10.1	14.3	6.4	12.7	18.1	8.3
1983 .....	10.3	14.5	6.6	12.9	18.2	8.4
1982 .....	10.6	15.0	6.7	13.3	18.9	8.6
1981 .....	11.5	16.1	7.4	14.3	20.3	9.3
1980 .....	12.2	17.2	7.9	15.1	21.4	9.9
1979 .....	12.1	17.1	7.8	14.9	21.2	9.6
1978 .....	12.4	17.5	8.0	15.3	21.8	9.8
1977 .....	13.0	18.3	8.4	15.9	22.6	10.2
1976 .....	13.5	19.1	8.6	16.5	23.4	10.5
1975 .....	13.8	19.4	8.8	16.7	23.9	10.7
1974 .....	14.7	20.6	9.6	17.9	25.3	11.6
1973 .....	14.9	20.8	9.8	18.1	25.5	11.8
1972 <sup>2</sup> .....	14.8	20.8	9.6	18.0	25.5	11.6
1971 .....	14.6	20.2	9.7	17.8	24.8	11.8
1970 .....	14.6	20.2	9.8	17.8	24.8	11.8
1969 .....	14.1	19.4	9.5	17.0	23.8	11.4
1968 .....	13.9	18.9	9.4	16.8	23.3	11.5
1967 .....	13.4	18.2	9.1	16.2	22.4	11.0
1966 .....	13.0	17.7	8.7	15.8	22.0	10.6
1965 .....	12.1	16.4	8.3	14.8	20.5	10.1
1964 .....	11.4	15.5	7.8	14.1	19.4	9.6
1963 .....	11.2	15.1	7.7	13.9	18.8	9.4
1962 .....	11.0	15.1	7.4	13.7	18.8	9.0
1961 .....	10.6	14.5	7.1	13.2	18.3	8.8
1960 .....	10.5	14.5	6.9	13.2	18.5	8.7
1959 .....	10.1	13.8	6.7	12.8	17.6	8.6
1958 .....	9.9	13.6	6.5	12.7	17.5	8.3
1957 .....	10.5	14.4	6.8	13.3	18.5	8.7
1956 .....	9.9	13.3	6.6	12.7	17.2	8.7
1955 .....	9.4	12.7	6.2	12.1	16.6	8.2
1954 .....	9.2	12.6	6.1	12.0	16.4	8.0
1953 .....	9.5	12.8	6.4	12.4	16.7	8.5

**Table 1.** Age-adjusted death rates<sup>1</sup> from liver cirrhosis by sex (death registration States, 1910–1932, and United States, 1933–2002). (Continued)

Year	Age-adjusted death rates					
	Based on 1940 standard population			Based on 2000 standard population		
	Both sexes	Males	Females	Both sexes	Males	Females
1952 .....	9.5	12.8	6.2	12.2	16.8	8.0
1951 .....	9.1	12.1	6.2	11.9	16.0	8.3
1950 .....	8.5	11.4	5.8	11.2	15.0	7.9
1949 .....	8.6	11.5	5.7	11.2	15.2	7.7
1948 .....	10.5	14.2	7.0	14.2	19.1	9.8
1947 .....	9.7	12.9	6.6	13.2	17.4	9.4
1946 .....	9.0	12.0	6.0	12.2	16.2	8.5
1945 .....	8.6	11.5	5.8	11.7	15.4	8.3
1944 .....	8.0	10.5	5.6	11.2	14.3	8.0
1943 .....	8.9	11.7	6.1	12.2	15.8	8.8
1942 .....	9.1	12.1	6.1	12.4	16.5	8.6
1941 .....	8.8	11.6	5.9	12.1	16.0	8.5
1940 .....	8.6	11.5	5.6	11.9	15.8	8.2
1939 .....	8.5	11.2	5.6	11.9	15.7	8.3
1938 .....	8.6	11.3	5.8	12.1	15.7	8.5
1937 .....	8.9	11.7	6.0	12.4	16.2	8.9
1936 .....	8.8	11.6	5.9	12.4	16.3	8.7
1935 .....	8.5	11.2	5.7	12.1	16.0	8.4
1934 .....	8.4	10.9	5.8	11.9	15.3	8.6
1933 <sup>3</sup> .....	8.3	10.5	6.0	11.8	14.6	9.0
1932 .....	8.0	10.3	5.7	11.5	14.6	8.6
1931 .....	8.4	10.7	5.9	12.0	15.3	8.9
1930 .....	8.3	10.5	6.0	11.8	14.8	9.0
1929 .....	8.3	10.5	6.0	12.0	14.9	9.1
1928 .....	8.8	11.3	6.2	12.7	16.2	9.3
1927 .....	8.8	11.2	6.3	12.8	16.2	9.6
1926 .....	8.6	10.9	6.1	12.7	15.9	9.6
1925 .....	8.7	10.9	6.4	13.0	16.1	10.0
1924 .....	8.9	11.4	6.1	13.0	16.5	9.5
1923 .....	8.8	11.3	6.1	13.3	16.9	9.8
1922 .....	9.2	11.7	6.7	14.0	17.6	10.6
1921 .....	9.2	11.4	6.8	13.7	17.0	10.7
1920 .....	8.9	11.2	6.5	13.3	16.7	10.1
1919 .....	9.8	12.7	6.8	14.5	18.5	10.5
1918 .....	11.7	15.3	7.7	16.4	21.3	11.6
1917 .....	13.4	17.5	9.0	18.9	—	—
1916 .....	14.5	19.1	9.5	20.0	26.2	13.8
1915 .....	14.7	19.3	9.9	20.4	26.6	14.3
1914 .....	15.3	20.3	9.9	21.1	27.6	14.5
1913 .....	15.9	21.0	10.5	21.6	—	—
1912 .....	16.2	21.4	10.6	22.0	—	—
1911 .....	17.0	22.2	11.3	23.0	—	—
1910 .....	16.4	21.3	11.3	22.1	—	—

—□Because there was no information available on deaths by sex for 1910–1913 and 1917, age-adjusted death rates for males and females based on the year 2000 standard population were not calculated for those years.

1□ Rates per 100,000 population computed by the direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 1940 and 2000.

2□ Deaths based on a 50-percent sample.

3□ Reporting States increased from 10 States and the District of Columbia in 1900 to the entire contiguous United States in 1933.

**Table 2.** Age-specific number of deaths, age-specific death rates, and age-adjusted death rates<sup>1</sup> from all liver cirrhosis by race, Hispanic origin, and sex, United States, 1970–2002.

Race, Hispanic origin <sup>2</sup> , sex, and year	Number of deaths, by age group									Deaths per 100,000 population, by age group									Age-adjusted deaths per 100,000 population
	All <sup>3</sup>	0–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	All	25–34	35–44	45–54	55–64	65–74	75–84	85+		
All races, both sexes																			
2002 .....	27,794	65	417	3,272	7,361	6,177	5,453	4,043	1,002	9.7	1.1	7.3	18.4	23.2	29.8	31.7	21.9	9.6	
2001 .....	27,485	49	414	3,434	7,387	5,834	5,533	3,835	992	9.6	1.0	7.6	18.8	23.0	30.2	30.5	22.3	9.7	
2000 .....	27,005	56	442	3,485	6,780	5,836	5,544	3,866	993	9.6	1.1	7.7	17.8	23.9	30.2	31.1	23.2	9.7	
1999 .....	26,779	54	441	3,431	6,495	5,728	5,700	3,950	977	9.6	1.1	7.6	17.8	24.1	30.9	32.3	23.5	9.8	
1998 .....	25,303	44	507	3,380	5,767	5,301	5,669	3,734	896	9.2	1.2	7.6	16.4	23.0	30.5	31.1	22.2	9.4	
1997 .....	25,289	54	517	3,516	5,649	5,264	5,828	3,563	894	9.3	1.3	7.9	16.5	23.8	31.2	30.2	22.9	9.6	
1996 .....	25,163	50	572	3,656	5,441	5,332	5,753	3,532	817	9.3	1.4	8.4	16.6	24.7	30.6	30.6	21.5	9.7	
1995 .....	25,345	72	608	3,713	5,258	5,385	5,941	3,518	841	9.5	1.4	8.7	16.7	25.3	31.5	31.3	22.8	9.9	
1994 .....	25,520	59	737	3,711	5,061	5,557	6,184	3,387	817	9.7	1.7	8.9	16.8	26.3	32.9	30.8	22.9	10.2	
1993 .....	25,341	81	726	3,772	4,723	5,637	6,124	3,519	746	9.7	1.7	9.2	16.4	26.8	32.8	32.7	21.7	10.3	
1992 .....	25,407	70	769	3,619	4,592	5,807	6,300	3,445	799	9.9	1.8	9.1	16.7	27.7	34.1	32.6	24.1	10.5	
1991 .....	25,562	66	864	3,596	4,470	6,076	6,258	3,475	739	10.1	2.0	9.1	17.3	28.9	34.2	33.6	23.2	10.8	
1990 .....	25,920	76	894	3,623	4,517	6,332	6,311	3,439	713	10.4	2.1	9.6	17.9	30.0	34.9	34.1	23.3	11.1	
1989 .....	26,823	91	985	3,618	4,744	6,787	6,520	3,361	708	10.9	2.3	9.9	19.3	32.0	36.5	34.1	23.9	11.7	
1988 .....	26,572	87	1,061	3,581	4,801	7,020	6,303	3,116	595	10.9	2.5	10.2	20.0	32.6	35.8	32.4	20.6	11.7	
1987 .....	26,351	105	1,147	3,431	4,640	7,112	6,244	3,058	606	10.9	2.7	10.0	20.1	32.7	35.8	32.6	21.5	11.8	
1986 .....	26,310	109	1,186	3,207	4,646	7,203	6,494	2,877	580	11.0	2.8	9.7	20.5	32.7	37.9	31.5	21.2	11.9	
1985 .....	26,927	100	1,250	3,126	4,995	7,586	6,410	2,907	542	11.3	3.0	9.9	22.2	34.3	38.0	32.7	20.3	12.3	
1984 .....	27,468	126	1,168	3,084	5,244	7,856	6,609	2,880	494	11.6	2.9	10.1	23.4	35.5	39.7	33.3	19.0	12.7	
1983 .....	27,414	121	1,210	2,967	5,461	8,097	6,377	2,693	479	11.7	3.0	10.1	24.4	36.6	38.8	31.9	19.0	12.9	
1982 .....	27,838	147	1,204	3,021	5,726	8,194	6,501	2,591	447	12.0	3.1	10.8	25.5	37.2	40.3	31.6	18.3	13.3	
1981 .....	29,451	160	1,196	3,247	6,413	8,661	6,772	2,492	501	12.8	3.1	12.3	28.4	39.5	42.6	31.2	21.3	14.3	
1980 .....	30,730	180	1,293	3,498	7,077	9,081	6,738	2,389	459	13.5	3.5	13.6	31.1	41.7	43.1	30.7	20.2	15.1	
1979 .....	29,851	155	1,229	3,502	7,142	8,810	6,437	2,166	400	13.3	3.4	13.9	31.1	41.1	42.0	28.6	18.4	14.9	
1978 .....	30,066	178	1,180	3,506	7,453	8,996	6,209	2,132	397	13.5	3.4	14.4	32.2	42.7	41.4	28.8	19.2	15.3	
1977 .....	30,848	195	1,259	3,594	7,905	9,261	6,208	2,062	352	14.0	3.7	15.3	33.8	44.7	42.3	28.5	17.8	15.9	
1976 .....	31,453	183	1,172	3,886	8,263	9,558	6,040	1,985	353	14.5	3.6	16.9	35.0	47.0	42.2	28.1	18.9	16.5	
1975 .....	31,623	215	1,169	3,808	8,547	9,688	5,942	1,930	318	14.7	3.7	16.7	36.0	48.4	42.6	27.7	17.4	16.7	
1974 .....	33,319	227	1,257	4,237	9,205	9,926	6,208	1,929	322	15.6	4.2	18.6	38.7	50.2	45.6	28.3	18.5	17.9	
1973 .....	33,350	222	1,201	4,412	9,305	10,114	5,898	1,865	325	15.8	4.2	19.4	39.1	51.8	44.3	28.0	19.8	18.1	
1972 <sup>4</sup> .....	32,576	202	1,174	4,614	9,206	9,606	5,556	1,896	316	15.6	4.3	20.3	38.9	49.8	42.6	29.2	20.2	18.0	
1971 .....	31,808	266	1,088	4,412	9,040	9,414	5,352	1,901	324	15.4	4.2	19.3	38.5	49.5	41.9	30.1	21.8	17.8	
1970 .....	31,399	259	1,100	4,522	8,898	9,168	5,246	1,893	306	15.4	4.4	19.6	38.2	49.0	42.0	30.8	21.7	17.8	
All races, male																			
2002 .....	17,710	38	264	2,141	5,375	4,273	3,238	1,974	403	12.5	1.3	9.6	27.3	33.5	39.0	38.8	29.3	13.1	
2001 .....	17,627	28	275	2,256	5,362	4,074	3,356	1,851	418	12.6	1.4	10.0	27.8	33.5	40.4	37.0	31.7	13.3	
2000 .....	17,451	32	295	2,394	5,044	4,037	3,339	1,885	422	12.6	1.5	10.7	27.0	34.4	40.2	38.4	33.9	13.5	
1999 .....	17,411	28	282	2,398	4,902	3,995	3,486	1,918	399	12.7	1.4	10.7	27.3	35.0	42.0	39.8	33.4	13.8	
1998 .....	16,412	28	332	2,347	4,315	3,751	3,404	1,840	390	12.1	1.6	10.6	25.0	34.0	40.8	39.1	34.0	13.3	
1997 .....	16,336	30	338	2,471	4,216	3,663	3,460	1,807	347	12.2	1.6	11.3	25.2	34.7	41.4	39.2	31.5	13.5	
1996 .....	16,381	29	361	2,648	4,026	3,704	3,461	1,810	335	12.4	1.7	12.3	25.1	35.9	41.2	40.5	31.6	13.8	
1995 .....	16,598	48	418	2,710	3,893	3,693	3,693	1,778	356	12.7	2.0	12.8	25.3	36.4	44.0	41.2	34.8	14.3	
1994 .....	16,581	30	490	2,695	3,671	3,858	3,760	1,744	326	12.9	2.3	13.0	24.9	38.3	45.1	41.6	33.1	14.5	
1993 .....	16,359	47	480	2,747	3,466	3,813	3,710	1,760	326	12.9	2.2	13.5	24.5	38.2	44.9	43.0	34.2	14.6	
1992 .....	16,572	39	504	2,711	3,338	4,000	3,832	1,804	338	13.2	2.3	13.7	24.8	40.2	47.0	45.2	36.9	15.1	
1991 .....	16,342	38	546	2,598	3,186	4,147	3,715	1,793	305	13.2	2.5	13.3	25.3	41.7	46.2	46.1	34.5	15.2	
1990 .....	16,695	35	560	2,652	3,265	4,281	3,813	1,771	306	13.7	2.6	14.2	26.5	43.0	48.0	46.9	36.0	15.8	
1989 .....	17,397	50	675	2,726	3,398	4,539	3,954	1,744	303	14.5	3.1	15.2	28.3	45.4	50.5	47.4	36.5	16.7	

**Table 2.** Age-specific number of deaths, age-specific death rates, and age-adjusted death rates<sup>1</sup> from all liver cirrhosis by race, Hispanic origin, and sex, United States, 1970–2002. (Continued)

Race, Hispanic origin <sup>2</sup> , sex, and year	Number of deaths, by age group									Deaths per 100,000 population, by age group									Age-adjusted deaths per 100,000 population
	All <sup>3</sup>	0–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	All	25–34	35–44	45–54	55–64	65–74	75–84	85+		
1988 .....	17,297	49	713	2,610	3,431	4,725	3,894	1,587	281	14.5	3.3	15.0	29.4	46.7	50.5	44.4	34.7	16.8	
1987 .....	17,147	62	765	2,475	3,304	4,836	3,821	1,598	279	14.5	3.6	14.7	29.4	47.3	50.2	45.9	34.9	16.9	
1986 .....	16,886	61	797	2,296	3,213	4,745	3,994	1,509	264	14.4	3.8	14.1	29.1	46.0	53.4	44.6	33.9	16.8	
1985 .....	17,345	62	832	2,217	3,431	5,113	3,943	1,513	225	15.0	4.0	14.2	31.4	49.2	53.7	46.0	29.5	17.5	
1984 .....	17,662	76	797	2,184	3,571	5,194	4,084	1,523	227	15.4	3.9	14.6	32.8	50.0	56.5	47.5	30.4	18.1	
1983 .....	17,628	55	820	2,069	3,686	5,309	4,028	1,448	206	15.5	4.1	14.4	34.0	51.3	56.5	46.4	28.1	18.2	
1982 .....	18,004	80	821	2,102	3,936	5,393	4,095	1,360	211	16.0	4.2	15.3	36.2	52.3	58.5	44.8	29.4	18.9	
1981 .....	18,978	84	820	2,222	4,264	5,694	4,265	1,380	244	17.0	4.2	17.2	39.0	55.5	61.9	46.6	34.8	20.3	
1980 .....	19,866	101	868	2,339	4,725	6,012	4,276	1,307	225	18.0	4.7	18.5	43.0	59.1	63.0	45.3	32.7	21.4	
1979 .....	19,455	90	851	2,371	4,740	5,832	4,164	1,205	193	17.8	4.8	19.2	42.8	58.2	62.7	42.7	28.9	21.2	
1978 .....	19,693	100	795	2,340	4,851	6,018	4,134	1,240	204	18.2	4.6	19.6	43.4	61.0	63.7	45.0	31.7	21.8	
1977 .....	20,167	108	853	2,367	5,240	6,236	3,969	1,212	175	18.9	5.1	20.6	46.5	64.3	62.5	44.9	28.2	22.6	
1976 .....	20,668	106	790	2,566	5,474	6,426	3,976	1,141	180	19.5	4.9	22.8	48.1	67.3	64.2	43.0	30.2	23.4	
1975 .....	20,830	109	793	2,527	5,630	6,436	4,000	1,164	168	19.9	5.1	22.7	49.2	68.5	66.1	44.6	28.8	23.9	
1974 .....	21,806	128	804	2,711	6,027	6,581	4,214	1,170	164	21.0	5.4	24.4	52.6	70.8	71.1	45.4	29.1	25.3	
1973 .....	21,782	118	785	2,827	5,986	6,791	3,973	1,115	181	21.2	5.5	25.5	52.3	73.8	68.5	43.9	33.5	25.5	
1972 <sup>4</sup> .....	21,422	94	716	2,980	6,050	6,532	3,736	1,126	186	21.0	5.3	26.8	53.1	71.8	65.7	44.9	35.5	25.5	
1971 .....	20,680	124	685	2,763	5,823	6,380	3,578	1,140	176	20.5	5.4	24.8	51.4	71.1	64.2	46.0	34.7	24.8	
1970 .....	20,382	116	688	2,790	5,691	6,217	3,583	1,126	166	20.5	5.6	24.9	50.6	70.3	65.6	46.0	33.9	24.8	
All races, female																			
2002 .....	10,084	27	153	1,131	1,986	1,904	2,215	2,069	599	6.9	0.8	5.0	9.7	13.8	22.2	27.0	18.8	6.4	
2001 .....	9,858	21	139	1,178	2,025	1,760	2,177	1,984	574	6.8	0.7	5.2	10.1	13.4	21.7	26.2	18.4	6.4	
2000 .....	9,554	24	147	1,091	1,736	1,799	2,205	1,981	571	6.6	0.7	4.8	9.0	14.2	21.9	26.4	18.8	6.3	
1999 .....	9,368	26	159	1,033	1,593	1,733	2,214	2,032	578	6.6	0.8	4.6	8.5	14.0	21.9	27.4	19.5	6.2	
1998 .....	8,891	16	175	1,033	1,452	1,550	2,265	1,894	506	6.3	0.9	4.6	8.1	12.9	22.1	25.9	17.5	6.0	
1997 .....	8,953	24	179	1,045	1,433	1,601	2,368	1,756	547	6.4	0.9	4.7	8.2	13.9	22.9	24.4	19.5	6.1	
1996 .....	8,782	21	211	1,008	1,415	1,628	2,292	1,722	482	6.4	1.0	4.6	8.5	14.4	22.0	24.4	17.6	6.1	
1995 .....	8,747	24	190	1,003	1,365	1,692	2,248	1,740	485	6.4	0.9	4.7	8.5	15.2	21.5	25.2	18.3	6.2	
1994 .....	8,939	29	247	1,016	1,390	1,699	2,424	1,643	491	6.6	1.2	4.8	9.0	15.3	23.2	24.2	19.1	6.4	
1993 .....	8,982	34	246	1,025	1,257	1,824	2,414	1,759	420	6.8	1.2	5.0	8.5	16.5	23.1	26.4	16.8	6.6	
1992 .....	8,835	31	265	908	1,254	1,807	2,468	1,641	461	6.7	1.2	4.5	8.9	16.4	23.9	25.0	19.2	6.5	
1991 .....	9,220	28	318	998	1,284	1,929	2,543	1,682	434	7.1	1.5	5.0	9.7	17.4	24.8	26.1	18.8	7.0	
1990 .....	9,225	41	334	971	1,252	2,051	2,498	1,668	407	7.2	1.5	5.1	9.7	18.4	24.6	26.4	18.4	7.1	
1989 .....	9,426	41	310	892	1,346	2,248	2,566	1,617	405	7.4	1.4	4.8	10.7	20.0	25.6	26.2	19.0	7.4	
1988 .....	9,275	38	348	971	1,370	2,295	2,409	1,529	314	7.4	1.6	5.4	11.2	20.1	24.3	25.3	15.1	7.4	
1987 .....	9,204	43	382	956	1,336	2,276	2,423	1,460	327	7.4	1.8	5.5	11.3	19.7	24.7	24.8	16.1	7.4	
1986 .....	9,424	48	389	911	1,433	2,458	2,500	1,368	316	7.6	1.8	5.4	12.3	21.1	25.9	23.8	16.1	7.7	
1985 .....	9,582	38	418	909	1,564	2,473	2,467	1,394	317	7.8	2.0	5.6	13.5	21.0	25.9	24.9	16.6	8.0	
1984 .....	9,806	50	371	900	1,673	2,662	2,525	1,357	267	8.1	1.8	5.8	14.5	22.6	26.9	24.9	14.4	8.3	
1983 .....	9,786	66	390	898	1,775	2,788	2,349	1,245	273	8.1	1.9	6.0	15.4	23.7	25.3	23.5	15.3	8.4	
1982 .....	9,834	67	383	919	1,790	2,801	2,406	1,231	236	8.3	1.9	6.4	15.5	23.9	26.3	23.8	13.7	8.6	
1981 .....	10,473	76	376	1,025	2,149	2,967	2,507	1,112	257	8.9	1.9	7.6	18.4	25.4	27.9	22.1	15.6	9.3	
1980 .....	10,864	79	425	1,159	2,352	3,069	2,462	1,082	234	9.3	2.3	8.8	20.0	26.5	27.8	22.1	14.8	9.9	
1979 .....	10,396	65	378	1,131	2,402	2,978	2,273	961	207	9.0	2.1	8.8	20.2	26.1	26.2	20.2	13.8	9.6	
1978 .....	10,373	78	385	1,166	2,602	2,978	2,075	892	193	9.1	2.2	9.4	21.7	26.6	24.4	19.2	13.5	9.8	
1977 .....	10,681	87	406	1,227	2,665	3,025	2,239	850	177	9.5	2.4	10.2	22.0	27.5	26.9	18.8	13.1	10.2	
1976 .....	10,785	77	382	1,320	2,789	3,132	2,064	844	173	9.7	2.3	11.2	22.8	29.0	25.4	19.2	13.6	10.5	
1975 .....	10,793	106	376	1,281	2,917	3,252	1,942	766	150	9.8	2.4	11.0	23.7	30.6	24.6	17.6	12.0	10.7	
1974 .....	11,513	99	453	1,526	3,178	3,345	1,994	759	158	10.5	3.0	13.1	25.8	32.0	25.9	17.9	13.5	11.6	

**Table 2.** Age-specific number of deaths, age-specific death rates, and age-adjusted death rates<sup>1</sup> from all liver cirrhosis by race, Hispanic origin, and sex, United States, 1970–2002. (Continued)

Race, Hispanic origin <sup>2</sup> , sex, and year	Number of deaths, by age group									Deaths per 100,000 population, by age group									Age-adjusted deaths per 100,000 population
	All <sup>3</sup>	0–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	All	25–34	35–44	45–54	55–64	65–74	75–84	85+		
1973 .....	11,568	104	416	1,585	3,319	3,323	1,925	750	144	10.7	2.9	13.6	26.9	32.2	25.7	18.2	13.1	11.8	
1972 <sup>4</sup> .....	11,154	108	458	1,634	3,156	3,074	1,820	770	130	10.4	3.3	14.0	25.7	30.1	24.8	19.4	12.5	11.6	
1971 .....	11,128	142	403	1,649	3,217	3,034	1,774	761	148	10.5	3.1	14.1	26.4	30.2	24.7	19.8	15.1	11.8	
1970 .....	11,017	143	412	1,732	3,207	2,951	1,663	767	140	10.5	3.2	14.6	26.6	29.9	23.7	20.7	15.2	11.8	
<b>White, male</b>																			
2002 .....	15,539	34	216	1,836	4,561	3,711	2,935	1,862	380	13.4	1.3	10.0	27.6	33.6	40.2	40.6	30.5	13.4	
2001 .....	15,235	18	223	1,866	4,483	3,477	3,021	1,745	396	13.3	1.4	10.1	27.6	33.1	41.3	38.7	33.1	13.4	
2000 .....	15,189	20	236	1,984	4,259	3,499	3,022	1,772	395	13.4	1.5	10.7	26.9	34.5	41.2	39.9	35.1	13.7	
1999 .....	15,028	22	234	1,970	4,078	3,413	3,142	1,794	373	13.3	1.4	10.6	26.7	34.6	42.7	41.1	34.6	13.8	
1998 .....	14,151	23	269	1,952	3,568	3,177	3,056	1,739	364	12.7	1.6	10.5	24.2	33.2	41.3	40.7	35.1	13.2	
1997 .....	14,109	23	276	2,077	3,464	3,105	3,131	1,702	327	12.8	1.6	11.3	24.1	33.9	42.0	40.7	32.9	13.4	
1996 .....	14,051	28	289	2,145	3,310	3,151	3,120	1,693	310	12.8	1.7	11.8	24.0	35.2	41.6	41.7	32.4	13.6	
1995 .....	14,163	30	333	2,159	3,163	3,119	3,346	1,677	329	13.1	1.9	12.1	23.8	35.2	44.5	42.7	35.6	14.0	
1994 .....	14,076	20	392	2,160	2,886	3,305	3,382	1,628	296	13.1	2.2	12.4	22.6	37.5	45.3	42.6	33.2	14.1	
1993 .....	13,888	33	373	2,107	2,791	3,283	3,332	1,652	311	13.1	2.1	12.3	22.8	37.5	44.9	44.4	36.2	14.2	
1992 .....	13,978	27	377	2,107	2,654	3,418	3,399	1,675	316	13.3	2.1	12.6	22.7	39.0	46.4	46.1	38.2	14.5	
1991 .....	13,850	24	413	1,997	2,536	3,546	3,347	1,692	286	13.4	2.3	12.0	23.2	40.4	46.2	47.9	35.8	14.7	
1990 .....	13,950	29	402	1,972	2,528	3,620	3,462	1,644	285	13.6	2.2	12.4	23.7	41.1	48.4	47.9	37.0	15.0	
1989 .....	14,492	33	467	1,978	2,680	3,871	3,558	1,623	278	14.3	2.6	12.8	25.6	43.7	50.4	48.7	37.1	15.8	
1988 .....	14,471	33	497	1,901	2,682	4,067	3,543	1,473	269	14.4	2.7	12.7	26.4	45.3	50.9	45.4	36.8	16.0	
1987 .....	14,259	47	520	1,736	2,546	4,181	3,479	1,487	260	14.3	2.9	11.9	26.0	46.0	50.6	47.1	36.1	15.9	
1986 .....	14,174	43	521	1,633	2,543	4,130	3,656	1,396	249	14.3	2.9	11.6	26.5	44.8	54.2	45.6	35.4	16.0	
1985 .....	14,402	44	554	1,513	2,688	4,403	3,571	1,416	207	14.6	3.1	11.2	28.2	47.4	53.9	47.5	30.1	16.4	
1984 .....	14,874	54	522	1,556	2,846	4,535	3,726	1,416	216	15.2	3.0	11.9	29.9	48.8	57.1	48.8	32.0	17.1	
1983 .....	14,910	39	548	1,466	2,970	4,632	3,677	1,370	202	15.3	3.2	11.7	31.2	49.9	57.2	48.5	30.5	17.3	
1982 .....	15,323	55	539	1,518	3,187	4,754	3,790	1,271	204	15.9	3.2	12.6	33.3	51.3	60.0	46.2	31.4	18.0	
1981 .....	15,946	62	527	1,534	3,394	5,002	3,900	1,292	232	16.6	3.2	13.6	35.1	54.2	62.7	48.2	36.4	19.0	
1980 .....	16,492	75	520	1,574	3,745	5,236	3,897	1,226	212	17.3	3.2	14.2	38.4	57.1	63.7	46.8	33.8	19.8	
1979 .....	16,178	60	518	1,660	3,744	5,082	3,803	1,127	177	17.1	3.3	15.3	38.0	56.3	63.5	44.1	29.1	19.6	
1978 .....	16,413	67	461	1,579	3,923	5,249	3,775	1,163	187	17.5	3.1	15.0	39.3	59.0	64.5	46.5	31.9	20.2	
1977 .....	16,727	69	495	1,623	4,160	5,426	3,653	1,130	167	18.0	3.4	16.0	41.3	62.0	63.8	46.0	29.5	20.8	
1976 .....	17,221	65	441	1,762	4,418	5,618	3,650	1,086	174	18.7	3.1	17.8	43.4	65.2	65.4	45.0	32.1	21.7	
1975 .....	17,458	72	435	1,789	4,591	5,650	3,672	1,090	157	19.1	3.2	18.2	44.8	66.6	67.3	45.8	29.6	22.3	
1974 .....	18,322	92	449	1,880	4,913	5,820	3,905	1,102	157	20.2	3.4	19.2	47.8	69.3	73.1	46.8	30.7	23.6	
1973 .....	18,372	67	449	1,963	4,943	6,061	3,676	1,049	162	20.4	3.6	20.0	48.0	72.9	70.2	45.1	33.0	23.8	
1972 <sup>4</sup> .....	17,964	56	392	2,102	4,932	5,846	3,400	1,062	172	20.1	3.3	21.4	48.1	71.0	66.2	46.1	36.2	23.7	
1971 .....	17,672	78	389	1,982	4,887	5,773	3,306	1,081	166	20.0	3.5	20.0	47.9	71.0	65.6	47.4	36.1	23.5	
1970 .....	17,389	84	361	1,969	4,775	5,622	3,335	1,078	161	19.9	3.3	19.7	47.1	70.2	67.4	47.8	36.2	23.4	
<b>White, Hispanic, male</b>																			
2002 .....	2,433	9	71	407	798	560	403	157	27	13.1	2.0	14.7	47.6	64.4	81.8	67.8	47.7	23.9	
2001 .....	2,412	5	68	421	782	555	386	171	23	13.5	1.9	15.7	49.3	67.7	81.3	79.6	43.8	25.0	
2000 .....	2,306	6	82	403	706	524	393	162	30	13.5	2.5	16.0	47.9	68.2	86.4	82.0	62.9	25.7	
1999 .....	2,153	8	69	428	642	480	359	136	31	13.3	2.2	18.0	46.9	66.3	82.9	74.1	69.7	25.2	
1998 .....	2,085	3	83	391	594	506	347	131	30	13.5	2.7	17.4	46.6	73.6	82.7	76.1	70.6	25.9	
1997 .....	1,983	9	71	393	583	460	298	140	28	13.5	2.4	18.5	48.9	70.7	73.2	86.5	69.2	25.9	
1996 .....	2,068	11	70	427	572	456	361	144	25	14.9	2.5	21.4	51.5	73.5	91.7	94.6	64.2	28.5	

**Table 2.** Age-specific number of deaths, age-specific death rates, and age-adjusted death rates<sup>1</sup> from all liver cirrhosis by race, Hispanic origin, and sex, United States, 1970–2002. (Continued)

Race, Hispanic origin <sup>2</sup> , sex, and year	Number of deaths, by age group									Deaths per 100,000 population, by age group									Age-adjusted deaths per 100,000 population
	All <sup>3</sup>	0–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	All	25–34	35–44	45–54	55–64	65–74	75–84	85+		
1995 .....	1,997	10	78	392	539	486	344	122	24	15.1	2.9	20.9	52.1	81.4	91.1	84.8	64.1	28.8	
1994 .....	2,017	4	104	444	514	455	361	114	21	15.9	4.0	25.2	53.2	78.7	100.0	83.1	58.3	29.9	
1993 .....	1,876	9	91	402	505	442	305	101	21	15.5	3.7	24.3	55.7	78.8	88.9	76.3	60.3	29.1	
1992 .....	1,791	6	83	400	470	420	289	104	18	15.6	3.5	25.8	55.2	77.1	89.0	80.8	53.9	29.2	
1991 .....	1,739	5	106	409	430	446	249	82	11	15.8	4.7	28.0	54.1	84.3	80.6	65.2	34.5	28.7	
White, non-Hispanic, male																			
2002 .....	13,032	25	144	1,419	3,740	3,129	2,522	1,698	353	13.4	1.2	9.1	25.2	30.8	37.1	39.0	29.7	12.4	
2001 .....	12,767	13	155	1,441	3,687	2,905	2,620	1,572	371	13.2	1.2	9.1	25.1	30.0	38.3	36.6	32.5	12.3	
2000 .....	12,807	14	151	1,571	3,527	2,956	2,617	1,607	363	13.3	1.2	9.8	24.6	31.6	38.0	37.9	33.6	12.6	
1999 .....	12,818	14	164	1,532	3,418	2,920	2,772	1,654	342	13.3	1.2	9.4	24.6	31.9	40.1	39.5	33.0	12.8	
1998 .....	11,986	20	183	1,547	2,946	2,653	2,698	1,603	334	12.5	1.3	9.5	21.9	29.9	38.6	39.1	33.6	12.1	
1997 .....	12,052	13	202	1,669	2,863	2,627	2,818	1,559	299	12.6	1.4	10.3	21.8	30.9	40.0	38.7	31.4	12.4	
1996 .....	11,675	16	216	1,667	2,669	2,619	2,694	1,512	282	12.5	1.5	10.6	21.4	32.0	38.6	39.4	31.3	12.4	
1995 .....	11,848	20	250	1,714	2,566	2,554	2,928	1,517	296	12.7	1.7	11.0	21.4	31.6	41.8	40.9	34.1	12.8	
1994 .....	11,780	16	280	1,671	2,312	2,791	2,958	1,482	266	12.7	1.9	10.9	20.0	34.6	42.4	41.0	31.8	12.9	
1993 .....	11,610	23	277	1,649	2,196	2,735	2,932	1,510	283	12.6	1.9	10.9	19.8	34.0	42.2	42.9	35.0	12.9	
1992 .....	11,793	18	278	1,645	2,102	2,903	3,027	1,530	289	12.9	1.8	11.0	19.8	36.0	44.1	44.5	37.2	13.4	
1991 .....	11,707	17	297	1,535	2,027	2,997	3,001	1,563	265	12.9	1.9	10.4	20.4	37.0	44.1	46.8	35.3	13.5	
Black, male																			
2002 .....	1,658	3	29	189	659	450	233	80	15	9.2	1.1	7.0	30.7	38.3	33.3	23.0	16.1	12.3	
2001 .....	1,879	4	29	281	726	479	272	76	11	10.6	1.1	10.3	35.1	42.4	39.2	22.3	12.2	14.1	
2000 .....	1,775	9	30	300	651	422	263	82	17	10.2	1.2	11.1	32.9	38.5	38.4	24.7	19.5	13.7	
1999 .....	1,896	6	30	314	679	471	281	96	18	11.0	1.2	11.7	36.3	44.4	41.3	29.5	21.1	15.2	
1998 .....	1,817	4	35	313	624	462	284	79	14	10.7	1.3	11.9	35.3	45.0	42.1	24.7	16.7	15.0	
1997 .....	1,827	5	36	304	636	475	273	83	15	11.0	1.4	11.8	37.8	47.8	40.8	26.4	18.5	15.6	
1996 .....	1,931	1	43	418	624	455	291	85	12	11.8	1.6	16.7	39.2	47.2	43.7	27.7	15.1	16.7	
1995 .....	2,008	13	52	440	631	477	295	75	23	12.5	2.0	18.1	41.9	50.4	44.7	25.1	29.5	17.9	
1994 .....	2,102	10	73	456	670	461	325	87	20	13.3	2.8	19.3	47.0	49.7	49.7	29.8	26.6	19.3	
1993 .....	2,113	12	87	539	583	467	325	86	10	13.7	3.3	23.7	43.2	51.1	50.2	30.0	13.6	19.5	
1992 .....	2,197	10	97	529	587	504	358	93	18	14.5	3.7	24.1	45.7	56.1	56.3	32.9	25.2	21.1	
1991 .....	2,148	13	108	533	569	522	308	79	11	14.5	4.1	25.4	46.9	58.7	49.2	28.2	15.9	20.9	
1990 .....	2,400	5	138	603	641	587	305	100	17	16.5	5.3	30.3	54.2	66.6	49.5	36.0	25.5	24.1	
1989 .....	2,524	15	176	664	634	585	340	93	14	17.7	6.8	35.3	54.8	66.4	55.8	33.8	21.1	25.5	
1988 .....	2,485	15	194	642	654	578	299	92	10	17.7	7.6	35.9	57.8	65.3	49.7	33.9	15.3	25.5	
1987 .....	2,584	11	222	684	676	589	289	95	14	18.6	8.9	40.0	61.1	66.4	48.5	35.6	21.8	26.9	
1986 .....	2,416	14	249	608	584	548	305	92	12	17.6	10.2	37.3	53.9	61.7	51.7	35.1	19.1	25.5	
1985 .....	2,636	15	249	648	662	642	326	77	14	19.5	10.4	42.0	61.9	72.3	55.7	30.0	22.6	28.3	
1984 .....	2,468	19	242	565	638	595	310	86	10	18.5	10.4	38.4	60.4	67.3	53.3	34.2	16.4	27.1	
1983 .....	2,440	15	240	547	649	612	309	63	4	18.5	10.6	39.1	62.1	69.6	53.4	25.6	6.7	27.1	
1982 .....	2,420	23	249	535	674	592	269	72	6	18.6	11.4	40.0	65.1	67.9	46.7	29.9	10.4	27.5	
1981 .....	2,746	20	264	621	794	628	335	76	6	21.4	12.5	48.7	77.0	72.7	58.6	32.3	10.8	31.9	
1980 .....	3,031	25	311	683	889	708	332	65	12	24.0	15.6	54.8	86.6	82.6	58.4	28.3	22.3	35.5	
1979 .....	2,964	25	292	648	909	685	329	60	14	24.1	15.8	54.8	89.5	80.8	58.4	26.8	27.1	35.8	
1978 .....	2,944	26	301	674	843	702	321	59	16	24.3	17.0	58.3	83.1	84.1	58.2	27.0	32.2	36.0	
1977 .....	3,140	30	315	675	1,000	747	293	71	6	26.2	18.6	59.6	98.6	90.8	54.1	33.4	12.5	38.9	
1976 .....	3,142	36	310	720	977	755	290	46	6	26.6	19.2	64.7	96.0	93.0	54.7	22.2	13.1	39.2	

**Table 2.** Age-specific number of deaths, age-specific death rates, and age-adjusted death rates<sup>1</sup> from all liver cirrhosis by race, Hispanic origin, and sex, United States, 1970–2002. (Continued)

Race, Hispanic origin <sup>2</sup> , sex, and year	Number of deaths, by age group									Deaths per 100,000 population, by age group									Age-adjusted deaths per 100,000 population
	All <sup>3</sup>	0–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	All	25–34	35–44	45–54	55–64	65–74	75–84	85+		
1975 .....	3,084	34	331	673	957	718	299	63	9	26.4	21.5	61.4	94.1	89.9	57.5	31.2	19.9	39.1	
1974 .....	3,205	30	318	762	1,044	702	286	54	6	27.9	21.7	69.5	103.0	89.0	56.0	27.7	13.7	41.2	
1973 .....	3,120	51	297	794	965	671	266	55	17	27.5	21.3	72.7	95.1	86.2	53.2	29.4	40.6	40.8	
1972 <sup>4</sup> .....	3,180	36	302	820	1,056	610	286	58	12	28.4	22.7	75.3	105.0	79.2	58.6	32.0	29.4	42.3	
1971 .....	2,757	43	275	729	866	542	238	55	8	25.0	21.7	67.2	86.8	71.4	50.1	31.4	20.1	37.1	
1970 .....	2,771	31	304	756	855	557	219	43	5	25.6	24.6	69.6	86.8	74.8	47.4	25.4	12.9	37.5	
Black, Hispanic <sup>5</sup> , male																			
2002 .....	16	—	—	2	3	5	4	2	—	2.0	—	1.8	4.3	14.7	22.6	26.8	—	4.8	
2001 .....	11	—	1	1	4	3	1	1	—	1.4	0.8	1.0	6.0	9.4	6.0	14.6	—	2.9	
2000 .....	13	—	2	3	2	4	2	—	—	1.8	1.6	3.0	3.2	13.4	12.7	—	—	3.2	
1999 .....	13	—	1	2	5	3	2	—	—	1.8	0.8	2.1	8.8	10.8	13.7	—	—	3.5	
1998 .....	12	—	—	4	4	4	—	—	—	1.7	—	4.2	7.3	14.5	—	—	—	2.9	
1997 .....	17	—	—	2	4	4	5	2	—	2.5	—	2.1	7.5	14.7	34.4	38.5	—	6.6	
1996 .....	16	—	—	3	5	4	1	3	—	2.4	—	3.2	9.7	14.9	6.9	58.5	—	6.2	
1995 .....	7	—	—	2	2	2	—	1	—	1.1	—	2.2	4.0	7.5	—	20.1	—	2.4	
1994 .....	15	—	—	5	7	3	—	—	—	2.3	—	5.4	14.5	11.3	—	—	—	3.8	
1993 .....	16	—	—	6	4	3	2	1	—	2.5	—	6.7	8.5	11.5	14.7	21.1	—	5.1	
1992 .....	17	—	—	3	6	3	4	—	1	2.7	—	3.4	13.2	11.6	29.9	—	102.0	6.9	
1991 .....	18	—	—	4	5	4	5	—	—	2.9	—	4.6	11.4	15.4	38.3	—	—	6.2	
Black, non-Hispanic, male																			
2002 .....	1,628	3	28	186	651	441	227	77	15	9.5	1.1	7.1	31.4	38.7	33.3	22.6	16.5	12.4	
2001 .....	1,855	3	28	280	715	472	270	75	11	10.9	1.1	10.7	35.7	43.0	39.9	22.4	12.4	14.3	
2000 .....	1,753	9	28	295	645	416	260	82	17	10.5	1.1	11.3	33.6	39.0	38.9	25.1	19.9	14.0	
1999 .....	1,866	6	29	311	665	464	277	96	17	11.3	1.2	12.0	36.6	44.9	41.6	30.0	20.2	15.4	
1998 .....	1,783	4	35	304	612	452	282	79	14	11.0	1.4	12.0	35.7	45.3	42.7	25.1	17.0	15.1	
1997 .....	1,798	5	36	301	628	466	268	79	15	11.3	1.4	12.2	38.6	48.3	40.9	25.6	18.7	15.8	
1996 .....	1,899	1	43	415	611	447	287	82	11	12.2	1.7	17.4	39.9	48.1	44.4	27.4	14.1	17.0	
1995 .....	1,972	12	51	429	623	468	291	74	23	12.9	2.1	18.5	43.1	51.3	45.4	25.4	30.2	18.2	
1994 .....	2,056	10	72	445	655	450	319	86	19	13.7	2.9	19.8	47.9	50.3	50.2	30.2	25.9	19.6	
1993 .....	2,055	12	87	524	571	449	317	83	9	14.0	3.5	24.1	44.2	51.0	50.4	29.7	12.6	19.7	
1992 .....	2,135	10	96	514	568	491	347	92	16	14.8	3.9	24.6	46.2	56.7	56.1	33.3	23.0	21.3	
1991 .....	2,075	13	103	516	550	506	294	78	11	14.7	4.2	25.8	47.3	59.0	48.3	28.6	16.4	21.1	
White, female																			
2002 .....	8,733	21	105	920	1,578	1,620	2,005	1,922	562	7.4	0.7	5.1	9.4	13.8	23.3	28.1	19.5	6.5	
2001 .....	8,543	10	106	954	1,605	1,518	1,961	1,848	541	7.2	0.7	5.2	9.7	13.6	22.6	27.2	19.1	6.5	
2000 .....	8,165	15	99	853	1,355	1,497	1,956	1,853	537	7.0	0.6	4.6	8.4	13.9	22.4	27.5	19.5	6.2	
1999 .....	8,016	15	119	803	1,252	1,419	1,985	1,889	534	6.9	0.8	4.4	8.1	13.5	22.5	28.3	19.9	6.2	
1998 .....	7,710	9	132	792	1,124	1,317	2,078	1,775	483	6.7	0.8	4.3	7.5	12.9	23.2	27.0	18.4	6.0	
1997 .....	7,668	13	125	803	1,103	1,337	2,119	1,644	524	6.7	0.8	4.4	7.5	13.6	23.4	25.3	20.5	6.0	
1996 .....	7,469	16	165	726	1,102	1,347	2,040	1,622	448	6.6	1.0	4.0	7.8	14.0	22.2	25.5	18.0	6.0	
1995 .....	7,377	11	136	742	1,040	1,368	2,024	1,602	454	6.6	0.8	4.2	7.7	14.3	21.9	25.7	18.7	6.0	
1994 .....	7,498	21	158	719	1,057	1,402	2,147	1,538	456	6.7	0.9	4.1	8.1	14.7	23.2	25.1	19.4	6.2	
1993 .....	7,571	21	168	698	957	1,532	2,172	1,628	393	6.9	1.0	4.1	7.6	16.1	23.5	26.9	17.2	6.3	
1992 .....	7,427	23	174	628	958	1,486	2,187	1,542	429	6.8	1.0	3.8	8.0	15.6	23.8	25.9	19.5	6.2	

**Table 2.** Age-specific number of deaths, age-specific death rates, and age-adjusted death rates<sup>1</sup> from all liver cirrhosis by race, Hispanic origin, and sex, United States, 1970–2002. (Continued)

Race, Hispanic origin <sup>2</sup> , sex, and year	Number of deaths, by age group									Deaths per 100,000 population, by age group									Age-adjusted deaths per 100,000 population
	All <sup>3</sup>	0–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	All	25–34	35–44	45–54	55–64	65–74	75–84	85+		
1991 .....	7,646	18	198	646	949	1,616	2,241	1,567	409	7.1	1.1	3.9	8.4	16.8	24.5	26.8	19.3	6.5	
1990 .....	7,621	26	203	619	930	1,671	2,245	1,538	387	7.1	1.1	3.9	8.5	17.3	24.7	26.9	19.1	6.6	
1989 .....	7,835	23	185	566	1,006	1,857	2,291	1,520	387	7.4	1.0	3.7	9.3	19.0	25.6	27.1	19.7	6.9	
1988 .....	7,600	27	207	616	998	1,915	2,142	1,401	294	7.2	1.2	4.1	9.5	19.2	24.2	25.6	15.4	6.8	
1987 .....	7,642	24	223	606	988	1,918	2,195	1,374	314	7.3	1.3	4.1	9.8	19.0	25.0	25.6	16.9	6.9	
1986 .....	7,869	33	213	593	1,081	2,108	2,253	1,284	303	7.6	1.2	4.2	10.9	20.5	26.0	24.5	16.8	7.2	
1985 .....	7,922	30	225	574	1,188	2,103	2,217	1,286	299	7.7	1.3	4.2	12.0	20.3	26.0	25.2	17.0	7.4	
1984 .....	8,169	32	185	574	1,322	2,245	2,290	1,266	255	8.0	1.1	4.3	13.3	21.5	27.1	25.4	15.0	7.7	
1983 .....	8,146	36	204	572	1,378	2,386	2,126	1,179	263	8.0	1.2	4.5	13.9	22.9	25.5	24.3	16.0	7.8	
1982 .....	8,210	38	192	593	1,389	2,435	2,183	1,160	220	8.1	1.2	4.9	13.9	23.4	26.6	24.6	13.9	8.0	
1981 .....	8,648	50	178	652	1,668	2,554	2,254	1,044	244	8.6	1.1	5.7	16.5	24.6	27.8	22.7	16.0	8.6	
1980 .....	8,876	41	204	734	1,812	2,615	2,227	1,017	224	8.9	1.3	6.5	17.7	25.3	27.9	22.7	15.3	9.0	
1979 .....	8,574	49	181	727	1,882	2,581	2,058	895	200	8.6	1.2	6.6	18.1	25.3	26.3	20.5	14.4	8.8	
1978 .....	8,464	48	188	743	2,022	2,558	1,871	844	188	8.6	1.2	6.9	19.2	25.5	24.4	19.8	14.2	8.9	
1977 .....	8,721	46	185	782	2,065	2,616	2,063	791	168	9.0	1.3	7.6	19.4	26.6	27.5	19.0	13.4	9.2	
1976 .....	8,833	40	186	829	2,202	2,736	1,876	797	167	9.2	1.3	8.2	20.4	28.2	25.6	19.6	14.2	9.5	
1975 .....	8,871	72	170	801	2,350	2,844	1,765	730	137	9.3	1.2	8.0	21.5	29.8	24.7	18.2	11.9	9.7	
1974 .....	9,421	62	223	996	2,511	2,923	1,839	717	150	9.9	1.7	9.9	22.9	31.1	26.4	18.3	13.8	10.5	
1973 .....	9,444	69	195	1,023	2,632	2,919	1,755	708	143	10.0	1.5	10.1	24.0	31.4	25.8	18.6	14.1	10.6	
1972 <sup>4</sup> .....	9,174	68	194	1,044	2,578	2,750	1,670	744	124	9.8	1.6	10.3	23.6	29.9	25.1	20.2	12.9	10.5	
1971 .....	9,218	101	192	1,089	2,619	2,704	1,646	728	139	10.0	1.7	10.6	24.1	29.8	25.2	20.4	15.3	10.7	
1970 .....	9,075	102	172	1,121	2,658	2,624	1,532	728	137	9.9	1.5	10.8	24.6	29.4	23.9	21.1	16.1	10.7	
White, Hispanic, female																			
2002 .....	977	8	21	97	176	199	257	165	54	5.7	0.7	3.9	10.5	20.6	41.5	48.9	47.6	9.6	
2001 .....	902	4	16	106	168	173	233	164	38	5.4	0.5	4.3	10.5	18.9	38.9	52.1	35.7	9.3	
2000 .....	873	4	11	100	147	171	236	161	43	5.5	0.4	4.3	9.8	19.7	41.0	55.1	44.2	9.7	
1999 .....	838	4	19	99	144	157	223	150	42	5.5	0.7	4.5	10.3	19.2	40.5	54.7	45.7	9.7	
1998 .....	743	3	24	72	118	155	197	138	36	5.1	0.9	3.4	9.0	20.0	37.1	52.7	41.0	9.1	
1997 .....	780	5	15	93	128	158	218	124	39	5.6	0.6	4.7	10.4	21.5	42.5	49.4	46.9	9.9	
1996 .....	716	7	22	82	127	137	193	106	42	5.4	0.9	4.4	11.0	19.6	39.0	44.2	52.9	9.4	
1995 .....	669	3	12	82	103	153	169	109	38	5.3	0.5	4.6	9.6	22.7	35.5	47.5	50.6	9.4	
1994 .....	693	1	15	74	120	163	201	95	24	5.7	0.7	4.4	11.9	25.0	44.2	42.9	33.6	10.0	
1993 .....	652	8	16	72	101	158	163	108	26	5.6	0.7	4.5	10.6	24.9	37.5	50.4	38.3	9.8	
1992 .....	643	2	18	49	121	147	182	100	24	5.8	0.9	3.3	13.5	23.9	44.0	48.0	37.7	10.2	
1991 .....	650	4	17	76	95	179	174	85	19	6.2	0.9	5.4	11.3	29.8	44.0	41.9	31.6	10.4	
White, non-Hispanic, female																			
2002 .....	7,734	13	84	820	1,396	1,416	1,742	1,755	508	7.6	0.7	5.3	9.2	13.2	21.8	27.0	18.3	6.3	
2001 .....	7,620	6	90	843	1,434	1,343	1,723	1,679	502	7.5	0.7	5.3	9.6	13.1	21.4	26.0	18.4	6.3	
2000 .....	7,269	11	87	751	1,202	1,322	1,715	1,688	493	7.2	0.7	4.7	8.3	13.3	21.0	26.2	18.6	6.0	
1999 .....	7,158	11	100	700	1,104	1,259	1,760	1,735	489	7.1	0.8	4.3	7.8	13.0	21.3	27.2	18.8	5.9	
1998 .....	6,950	6	108	718	1,004	1,160	1,875	1,634	445	6.9	0.8	4.4	7.3	12.3	22.3	25.9	17.6	5.8	
1997 .....	6,855	8	110	703	968	1,175	1,891	1,517	483	6.8	0.8	4.3	7.2	12.9	22.1	24.3	19.6	5.8	
1996 .....	6,613	9	143	633	952	1,188	1,808	1,483	396	6.8	1.0	4.0	7.5	13.6	21.2	24.6	16.8	5.8	
1995 .....	6,556	8	120	646	914	1,185	1,815	1,461	407	6.7	0.8	4.1	7.5	13.6	21.1	24.8	17.7	5.8	
1994 .....	6,649	20	138	633	917	1,211	1,903	1,408	419	6.8	0.9	4.1	7.8	13.9	22.0	24.3	18.8	5.9	

**Table 2.** Age-specific number of deaths, age-specific death rates, and age-adjusted death rates<sup>1</sup> from all liver cirrhosis by race, Hispanic origin, and sex, United States, 1970–2002. (Continued)

Race, Hispanic origin <sup>2</sup> , sex, and year	Number of deaths, by age group									Deaths per 100,000 population, by age group									Age-adjusted deaths per 100,000 population
	All <sup>3</sup>	0–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	All	25–34	35–44	45–54	55–64	65–74	75–84	85+		
1993 .....	6,728	12	150	613	833	1,322	1,950	1,489	358	7.0	1.0	4.0	7.3	15.2	22.5	26.0	16.5	6.0	
1992 .....	6,552	20	150	557	804	1,290	1,947	1,394	390	6.8	1.0	3.7	7.4	14.8	22.6	24.8	18.7	5.9	
1991 .....	6,802	11	176	551	831	1,404	2,007	1,441	381	7.1	1.1	3.7	8.1	15.9	23.4	26.0	18.9	6.3	
Black, female																			
2002 .....	989	5	26	142	331	217	140	101	27	5.0	0.9	4.6	13.3	14.9	14.2	16.4	11.1	5.8	
2001 .....	962	9	21	161	312	189	148	99	23	4.9	0.7	5.2	13.0	13.4	15.1	16.4	9.6	5.8	
2000 .....	1,034	7	31	172	308	224	179	86	27	5.4	1.1	5.6	13.4	16.4	18.4	14.6	11.5	6.4	
1999 .....	1,023	9	27	170	270	247	161	102	37	5.4	0.9	5.6	12.3	18.7	16.7	17.6	16.2	6.5	
1998 .....	900	6	25	177	251	185	151	87	18	4.8	0.9	5.9	12.1	14.4	15.7	15.2	8.1	5.8	
1997 .....	1,007	10	31	189	264	223	183	85	22	5.5	1.1	6.5	13.3	17.9	19.2	15.0	10.3	6.7	
1996 .....	1,031	3	31	220	255	227	204	63	28	5.7	1.1	7.7	13.5	18.7	21.6	11.4	13.4	7.0	
1995 .....	1,079	9	42	214	262	251	174	103	24	6.1	1.4	7.7	14.6	21.0	18.5	19.0	12.0	7.6	
1994 .....	1,157	7	60	238	278	245	216	83	30	6.6	2.0	8.8	16.4	20.8	23.2	15.6	8.2		
1993 .....	1,133	11	60	261	253	232	197	99	20	6.6	2.0	10.0	15.7	19.9	21.4	19.0	10.8		
1992 .....	1,140	6	66	239	246	255	221	85	22	6.8	2.2	9.4	16.0	22.2	24.3	16.5	12.4		
1991 .....	1,336	8	100	310	285	261	258	91	21	8.1	3.4	12.7	19.5	22.8	28.7	18.0	12.5		
1990 .....	1,363	13	100	317	277	321	212	104	18	8.4	3.4	13.7	19.5	28.3	23.9	20.9	11.3		
1989 .....	1,337	15	101	279	282	333	231	78	17	8.4	3.5	12.7	20.2	29.4	26.4	16.1	11.1	10.5	
1988 .....	1,431	8	114	318	313	322	231	106	18	9.1	4.0	15.2	22.9	28.4	26.7	22.4	12.1	11.6	
1987 .....	1,345	14	144	316	298	291	198	73	10	8.7	5.1	15.7	22.3	25.7	23.2	15.9	7.0	10.9	
1986 .....	1,347	14	153	283	306	311	210	66	4	8.8	5.5	14.7	23.3	27.6	24.9	14.8	2.9	11.1	
1985 .....	1,446	7	172	290	328	320	221	93	13	9.6	6.3	15.9	25.3	28.5	26.5	21.6	9.8	12.2	
1984 .....	1,446	18	168	277	308	374	210	80	10	9.7	6.4	15.8	24.0	33.6	25.5	19.2	7.8	12.4	
1983 .....	1,460	22	172	294	345	366	192	60	9	9.9	6.7	17.6	27.1	33.2	23.6	14.9	7.3	12.8	
1982 .....	1,441	27	169	292	356	325	200	58	13	9.9	6.8	18.2	28.2	29.8	24.9	14.9	11.0	12.9	
1981 .....	1,616	21	171	333	420	380	223	56	12	11.3	7.1	21.7	33.3	35.3	28.1	14.9	10.7	14.9	
1980 .....	1,776	36	191	371	487	419	211	54	7	12.6	8.3	24.7	38.7	39.4	27.0	14.8	6.5	16.5	
1979 .....	1,619	14	164	356	468	357	200	55	5	11.8	7.6	24.7	37.5	34.1	26.1	15.7	4.9	15.7	
1978 .....	1,701	24	174	372	522	378	186	40	4	12.6	8.4	26.5	42.1	36.8	25.0	11.8	4.1	16.7	
1977 .....	1,762	37	181	396	545	377	166	52	8	13.2	9.2	28.8	44.2	37.4	23.0	16.0	8.7	17.7	
1976 .....	1,734	30	167	428	532	358	170	40	6	13.2	8.8	31.7	43.3	36.2	24.2	12.9	6.9	17.8	
1975 .....	1,725	30	169	423	524	372	164	30	12	13.3	9.4	31.8	43.0	38.5	24.2	9.9	14.1	18.0	
1974 .....	1,885	35	203	472	603	390	146	30	5	14.8	11.8	35.7	49.9	41.0	22.1	10.4	6.2	19.9	
1973 .....	1,937	31	195	504	629	379	158	38	1	15.5	11.9	38.3	52.5	40.6	24.8	13.9	1.3	20.9	
1972 <sup>4</sup> .....	1,830	40	240	530	538	308	144	24	4	14.8	15.3	40.4	45.5	33.5	23.2	9.3	5.6	20.0	
1971 .....	1,713	35	181	504	545	296	117	28	7	14.1	12.0	38.5	46.8	32.9	19.4	11.4	10.4	19.2	
1970 .....	1,766	39	216	550	504	303	118	33	2	14.8	14.7	42.0	44.1	34.6	20.2	14.3	3.2	20.0	
Black, Hispanic <sup>5</sup> , female																			
2002 .....	9	—	1	2	3	1	1	1	—	1.1	0.7	1.7	3.9	2.5	4.1	7.9	—	1.7	
2001 .....	6	—	—	1	3	—	1	1	—	0.8	—	0.9	4.1	—	4.3	8.5	—	1.4	
2000 .....	8	—	—	—	1	5	1	1	—	1.0	—	—	1.5	14.1	4.5	9.1	—	2.1	
1999 .....	5	—	—	—	1	1	2	—	1	0.7	—	—	1.6	3.0	9.6	—	31.8	1.6	
1998 .....	7	—	1	—	1	1	3	—	1	1.0	0.7	—	1.6	3.0	14.4	—	33.2	2.0	
1997 .....	7	—	—	—	—	3	3	—	1	1.0	—	—	—	9.1	14.4	—	35.3	2.3	
1996 .....	5	—	—	—	1	2	—	2	—	0.7	—	—	1.7	6.1	—	21.2	—	1.7	
1995 .....	7	—	—	1	2	1	1	2	—	1.0	—	1.0	3.6	3.1	4.9	21.7	—	2.2	

**Table 2.** Age-specific number of deaths, age-specific death rates, and age-adjusted death rates<sup>1</sup> from all liver cirrhosis by race, Hispanic origin, and sex, United States, 1970–2002. (Continued).

Race, Hispanic origin <sup>2</sup> , sex, and year	Number of deaths, by age group									Deaths per 100,000 population, by age group									Age-adjusted deaths per 100,000 population
	All <sup>3</sup>	0–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	All	25–34	35–44	45–54	55–64	65–74	75–84	85+		
1994 .....	8	—	—	1	1	2	4	—	—	1.2	—	1.1	1.9	6.2	19.8	—	—	2.3	
1993 .....	5	—	—	1	1	2	1	—	—	0.8	—	1.1	1.9	6.2	5.0	—	—	1.3	
1992 .....	3	—	—	—	1	2	—	—	—	0.5	—	—	2.0	6.2	—	—	—	0.8	
1991 .....	8	—	1	1	3	1	2	—	—	1.3	0.8	1.2	6.2	3.1	10.2	—	—	2.1	
Black, non-Hispanic, female																			
2002 .....	976	5	25	140	327	215	139	99	26	5.2	0.9	4.7	13.5	15.1	14.4	16.4	10.9	5.9	
2001 .....	943	9	20	159	305	188	145	94	23	5.0	0.7	5.4	13.1	13.7	15.2	15.9	9.8	5.8	
2000 .....	1,023	7	31	172	306	219	177	84	27	5.5	1.1	5.8	13.7	16.5	18.6	14.5	11.7	6.5	
1999 .....	1,012	9	27	169	266	246	159	100	36	5.5	1.0	5.8	12.5	19.1	16.9	17.5	16.0	6.6	
1998 .....	890	5	24	177	248	184	148	87	17	5.0	0.9	6.1	12.3	14.7	15.8	15.4	7.8	5.9	
1997 .....	991	10	30	187	263	218	177	85	21	5.6	1.1	6.6	13.7	18.0	19.0	15.3	10.0	6.8	
1996 .....	1,012	3	31	218	251	221	202	58	28	5.9	1.1	8.0	13.8	18.8	22.0	10.7	13.7	7.1	
1995 .....	1,059	9	42	209	258	247	170	100	24	6.2	1.5	7.8	15.0	21.3	18.6	18.9	12.2	7.7	
1994 .....	1,137	7	60	237	272	239	211	81	30	6.8	2.2	9.1	16.7	21.0	23.3	15.6	16.0	8.4	
1993 .....	1,107	11	58	259	247	224	192	96	20	6.8	2.1	10.3	15.9	19.9	21.4	18.8	11.0	8.3	
1992 .....	1,118	6	66	234	242	248	217	84	21	7.0	2.4	9.7	16.4	22.3	24.6	16.8	12.1	8.6	
1991 .....	1,303	8	96	303	276	255	253	90	21	8.3	3.4	13.0	19.7	23.1	29.0	18.3	12.8	10.2	

— There were no deaths in this table cell.

<sup>1</sup> Rates per 100,000 population computed by direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 2000.

<sup>2</sup> Excludes deaths for which Hispanic origin was unknown and all 1991 through 1996 deaths from Oklahoma and New Hampshire where Hispanic origin was unknown in more than 90 percent of all cirrhosis deaths.

<sup>3</sup> Includes deaths for which age of decedent was unknown; age-specific numbers of deaths may not sum to total.

<sup>4</sup> Deaths based on a 50-percent sample.

<sup>5</sup> Rates are not reliable due to the small number of cirrhosis deaths among Black Hispanics.

**Table 3.** Age-specific number of deaths, age-specific death rates, and age-adjusted death rates<sup>1</sup> from liver cirrhosis with and without mention of alcohol,  
United States, 1970–2002.

Liver cirrhosis subcategory and year	Number of deaths, by age group									Deaths per 100,000 population, by age group									Age-adjusted deaths per 100,000 population
	All <sup>2</sup>	0–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	All	25–34	35–44	45–54	55–64	65–74	75–84	85+		
Alcohol-related cirrhosis																			
2002 .....	12,121	9	242	1,971	4,137	3,083	1,849	730	98	4.2	0.6	4.4	10.3	11.6	10.1	5.7	2.1	4.2	
2001 .....	12,207	8	264	2,145	4,203	2,913	1,848	717	104	4.3	0.7	4.8	10.7	11.5	10.1	5.7	2.3	4.3	
2000 .....	12,109	8	279	2,226	3,888	2,969	1,891	751	95	4.3	0.7	4.9	10.2	12.1	10.3	6.1	2.2	4.3	
1999 .....	11,958	8	259	2,186	3,802	2,859	1,935	789	118	4.3	0.6	4.8	10.4	12.0	10.5	6.5	2.8	4.4	
1998 .....	11,798	11	332	2,217	3,462	2,805	2,127	738	104	4.3	0.8	5.0	9.8	12.2	11.5	6.1	2.6	4.4	
1997 .....	11,945	6	362	2,345	3,509	2,827	2,094	699	100	4.4	0.9	5.3	10.3	12.8	11.2	5.9	2.6	4.5	
1996 .....	12,079	5	394	2,426	3,455	2,849	2,054	784	104	4.5	0.9	5.6	10.5	13.2	10.9	6.8	2.7	4.7	
1995 .....	12,211	13	416	2,476	3,339	2,902	2,231	738	91	4.6	1.0	5.8	10.6	13.6	11.8	6.6	2.5	4.8	
1994 .....	12,241	13	499	2,449	3,146	2,921	2,383	722	103	4.7	1.2	5.9	10.4	13.8	12.7	6.6	2.9	4.9	
1993 .....	11,653	13	455	2,426	2,887	2,882	2,219	688	72	4.5	1.1	5.9	10.0	13.7	11.9	6.4	2.1	4.8	
1992 .....	11,868	12	514	2,383	2,819	3,067	2,303	672	96	4.6	1.2	6.0	10.2	14.6	12.5	6.4	2.9	4.9	
1991 .....	11,688	13	542	2,378	2,654	3,029	2,245	741	77	4.6	1.3	6.0	10.3	14.4	12.3	7.2	2.4	5.0	
1990 .....	11,985	19	580	2,381	2,700	3,198	2,320	701	76	4.8	1.3	6.3	10.7	15.2	12.8	7.0	2.5	5.2	
1989 .....	12,308	23	650	2,302	2,862	3,376	2,328	696	65	5.0	1.5	6.3	11.6	15.9	13.0	7.1	2.2	5.4	
1988 .....	11,792	17	665	2,163	2,710	3,376	2,169	630	58	4.8	1.5	6.1	11.3	15.7	12.3	6.6	2.0	5.2	
1987 .....	11,265	27	665	2,033	2,575	3,282	2,031	582	64	4.6	1.6	5.9	11.1	15.1	11.7	6.2	2.3	5.1	
1986 .....	11,060	30	708	1,866	2,482	3,188	2,174	548	58	4.6	1.7	5.7	11.0	14.5	12.7	6.0	2.1	5.0	
1985 .....	11,288	17	725	1,817	2,598	3,432	2,121	534	38	4.7	1.7	5.7	11.6	15.5	12.6	6.0	1.4	5.2	
1984 .....	11,386	25	640	1,791	2,651	3,490	2,168	566	50	4.8	1.6	5.9	11.8	15.8	13.0	6.5	1.9	5.3	
1983 .....	11,076	22	653	1,625	2,694	3,444	2,091	509	35	4.7	1.6	5.6	12.1	15.6	12.7	6.0	1.4	5.2	
1982 .....	11,293	28	653	1,669	2,830	3,497	2,110	466	36	4.9	1.7	6.0	12.6	15.9	13.1	5.7	1.5	5.4	
1981 .....	12,085	35	630	1,772	3,219	3,726	2,166	472	60	5.3	1.6	6.7	14.3	17.0	13.6	5.9	2.6	5.9	
1980 .....	12,938	36	694	1,942	3,554	3,923	2,274	453	56	5.7	1.9	7.5	15.6	18.0	14.5	5.8	2.5	6.4	
1979 .....	12,547	28	652	1,867	3,520	3,864	2,189	381	42	5.6	1.8	7.4	15.3	18.0	14.3	5.0	1.9	6.3	
1978 .....	12,828	38	613	1,873	3,705	3,957	2,138	452	47	5.8	1.8	7.7	16.0	18.8	14.3	6.1	2.3	6.5	
1977 .....	13,029	40	640	1,906	3,838	4,028	2,109	420	44	5.9	1.9	8.1	16.4	19.5	14.4	5.8	2.2	6.7	
1976 .....	13,289	37	605	2,061	3,995	4,084	2,068	402	33	6.1	1.9	8.9	16.9	20.1	14.4	5.7	1.8	7.0	
1975 .....	12,932	35	601	1,960	4,076	3,968	1,890	367	32	6.0	1.9	8.6	17.2	19.8	13.6	5.3	1.7	6.9	
1974 .....	13,151	36	608	2,049	4,235	3,962	1,867	349	41	6.2	2.0	9.0	17.8	20.1	13.7	5.1	2.4	7.1	
1973 .....	12,624	44	529	2,085	4,032	3,850	1,711	332	39	6.0	1.8	9.2	17.0	19.7	12.9	5.0	2.4	6.9	
1972 <sup>3</sup> .....	12,576	30	536	2,226	4,072	3,672	1,692	312	34	6.0	2.0	9.8	17.2	19.0	13.0	4.8	2.2	7.0	
1971 .....	11,892	37	517	2,072	3,826	3,563	1,504	335	35	5.7	2.0	9.1	16.3	18.7	11.8	5.3	2.4	6.6	
1970 .....	11,207	15	513	2,040	3,658	3,251	1,406	300	22	5.5	2.0	8.9	15.7	17.4	11.3	4.9	1.6	6.3	
Other specified cirrhosis																			
2002 .....	1,596	41	64	173	259	245	347	362	105	0.6	0.2	0.4	0.6	0.9	1.9	2.8	2.3	0.6	
2001 .....	1,414	31	46	139	235	247	326	295	94	0.5	0.1	0.3	0.6	1.0	1.8	2.3	2.1	0.5	
2000 .....	1,407	20	44	160	228	192	345	332	86	0.5	0.1	0.4	0.6	0.8	1.9	2.7	2.0	0.5	
1999 .....	1,492	29	52	166	236	248	344	337	79	0.5	0.1	0.4	0.6	1.0	1.9	2.8	1.9	0.5	
1998 .....	1,216	10	50	168	216	189	245	271	67	0.4	0.1	0.4	0.6	0.8	1.3	2.3	1.7	0.4	
1997 .....	1,257	21	43	167	214	158	313	263	78	0.5	0.1	0.4	0.6	0.7	1.7	2.2	2.0	0.5	
1996 .....	1,269	22	59	193	165	185	298	269	78	0.5	0.1	0.4	0.5	0.9	1.6	2.3	2.1	0.5	
1995 .....	1,371	23	59	194	218	207	308	277	82	0.5	0.1	0.5	0.7	1.0	1.6	2.5	2.2	0.5	
1994 .....	1,391	24	78	187	221	220	331	265	65	0.5	0.2	0.4	0.7	1.0	1.8	2.4	1.8	0.5	
1993 .....	1,614	36	74	244	230	251	377	329	73	0.6	0.2	0.6	0.8	1.2	2.0	3.1	2.1	0.6	
1992 .....	1,789	30	79	249	245	282	446	357	100	0.7	0.2	0.6	0.9	1.3	2.4	3.4	3.0	0.7	
1991 .....	1,821	30	110	227	272	330	440	338	70	0.7	0.3	0.6	1.1	1.6	2.4	3.3	2.2	0.8	

**Table 3.** Age-specific number of deaths, age-specific death rates, and age-adjusted death rates<sup>1</sup> from liver cirrhosis with and without mention of alcohol,  
United States, 1970–2002. (Continued)

Liver cirrhosis subcategory and year	Number of deaths, by age group									Deaths per 100,000 population, by age group									Age-adjusted deaths per 100,000 population
	All <sup>2</sup>	0–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	All	25–34	35–44	45–54	55–64	65–74	75–84	85+		
1990 .....	1,811	23	119	241	250	327	459	316	73	0.7	0.3	0.6	1.0	1.5	2.5	3.1	2.4	0.8	
1989 .....	1,932	32	102	287	294	387	461	293	75	0.8	0.2	0.8	1.2	1.8	2.6	3.0	2.5	0.8	
1988 .....	2,067	35	161	316	309	410	473	295	67	0.8	0.4	0.9	1.3	1.9	2.7	3.1	2.3	0.9	
1987 .....	2,279	39	186	339	333	470	520	316	76	0.9	0.4	1.0	1.4	2.2	3.0	3.4	2.7	1.0	
1986 .....	2,179	45	193	325	303	469	499	276	68	0.9	0.5	1.0	1.3	2.1	2.9	3.0	2.5	1.0	
1985 .....	2,447	46	221	357	403	543	507	303	64	1.0	0.5	1.1	1.8	2.5	3.0	3.4	2.4	1.1	
1984 .....	2,555	54	227	383	431	574	513	313	60	1.1	0.6	1.3	1.9	2.6	3.1	3.6	2.3	1.2	
1983 .....	2,495	62	215	357	424	607	496	281	50	1.1	0.5	1.2	1.9	2.7	3.0	3.3	2.0	1.2	
1982 .....	2,669	63	226	371	507	645	511	292	53	1.2	0.6	1.3	2.3	2.9	3.2	3.6	2.2	1.3	
1981 .....	2,654	76	245	391	537	592	516	233	63	1.2	0.6	1.5	2.4	2.7	3.2	2.9	2.7	1.3	
1980 .....	3,000	79	285	452	588	714	558	249	72	1.3	0.8	1.8	2.6	3.3	3.6	3.2	3.2	1.5	
1979 .....	2,764	65	244	413	613	633	493	234	65	1.2	0.7	1.6	2.7	3.0	3.2	3.1	3.0	1.4	
1978 .....	3,641	60	252	516	839	954	676	284	55	1.6	0.7	2.1	3.6	4.5	4.5	3.8	2.7	1.9	
1977 .....	3,908	78	262	504	963	1,034	710	289	63	1.8	0.8	2.1	4.1	5.0	4.8	4.0	3.2	2.0	
1976 .....	4,092	65	237	560	1,000	1,132	700	336	58	1.9	0.7	2.4	4.2	5.6	4.9	4.8	3.1	2.2	
1975 .....	4,549	79	280	575	1,126	1,311	812	315	50	2.1	0.9	2.5	4.7	6.5	5.8	4.5	2.7	2.4	
1974 .....	5,025	80	293	735	1,315	1,311	908	333	49	2.4	1.0	3.2	5.5	6.6	6.7	4.9	2.8	2.7	
1973 .....	5,341	73	322	742	1,475	1,498	867	303	57	2.5	1.1	3.3	6.2	7.7	6.5	4.6	3.5	2.9	
1972 <sup>3</sup> .....	5,140	78	272	780	1,360	1,394	862	322	70	2.5	1.0	3.4	5.7	7.2	6.6	5.0	4.5	2.9	
1971 .....	5,361	101	255	845	1,396	1,434	901	354	72	2.6	1.0	3.7	5.9	7.5	7.1	5.6	4.8	3.0	
1970 .....	5,520	98	261	864	1,513	1,491	870	362	59	2.7	1.0	3.7	6.5	8.0	7.0	5.9	4.2	3.1	
Unspecified cirrhosis																			
2002 .....	14,077	15	111	1,128	2,965	2,849	3,257	2,951	799	4.9	0.3	2.5	7.4	10.7	17.8	23.2	17.5	4.9	
2001 .....	13,864	10	104	1,150	2,949	2,674	3,359	2,823	794	4.9	0.3	2.5	7.5	10.6	18.3	22.4	17.8	4.9	
2000 .....	13,489	28	119	1,099	2,664	2,675	3,308	2,783	812	4.8	0.3	2.4	7.0	10.9	18.0	22.4	18.9	4.8	
1999 .....	13,329	17	130	1,079	2,457	2,621	3,421	2,824	780	4.8	0.3	2.4	6.7	11.0	18.6	23.1	18.8	4.9	
1998 .....	12,289	23	125	995	2,089	2,307	3,297	2,725	725	4.5	0.3	2.2	5.9	10.0	17.8	22.7	18.0	4.6	
1997 .....	12,087	27	112	1,004	1,926	2,279	3,421	2,601	716	4.4	0.3	2.3	5.6	10.3	18.3	22.0	18.3	4.6	
1996 .....	11,815	23	119	1,037	1,821	2,298	3,401	2,479	635	4.4	0.3	2.4	5.6	10.6	18.1	21.5	16.7	4.5	
1995 .....	11,763	36	133	1,043	1,701	2,276	3,402	2,503	668	4.4	0.3	2.4	5.4	10.7	18.0	22.3	18.1	4.6	
1994 .....	11,888	22	160	1,075	1,694	2,416	3,470	2,400	649	4.5	0.4	2.6	5.6	11.4	18.5	21.9	18.2	4.7	
1993 .....	12,074	32	197	1,102	1,606	2,504	3,528	2,502	601	4.6	0.5	2.7	5.6	11.9	18.9	23.2	17.4	4.9	
1992 .....	11,750	28	176	987	1,528	2,458	3,551	2,416	603	4.6	0.4	2.5	5.5	11.7	19.2	22.9	18.2	4.8	
1991 .....	12,053	23	212	991	1,544	2,717	3,573	2,396	592	4.8	0.5	2.5	6.0	12.9	19.5	23.2	18.6	5.0	
1990 .....	12,124	34	195	1,001	1,567	2,807	3,532	2,422	564	4.9	0.5	2.6	6.2	13.3	19.5	24.0	18.4	5.2	
1989 .....	12,583	36	233	1,029	1,588	3,024	3,731	2,372	568	5.1	0.5	2.8	6.4	14.2	20.9	24.1	19.1	5.4	
1988 .....	12,713	35	235	1,102	1,782	3,234	3,661	2,191	470	5.2	0.5	3.1	7.4	15.0	20.8	22.8	16.3	5.6	
1987 .....	12,807	39	296	1,059	1,732	3,360	3,693	2,160	466	5.3	0.7	3.1	7.5	15.4	21.2	23.0	16.5	5.7	
1986 .....	13,071	34	285	1,016	1,861	3,546	3,821	2,053	454	5.4	0.7	3.1	8.2	16.1	22.3	22.5	16.6	5.9	
1985 .....	13,192	37	304	952	1,994	3,611	3,782	2,070	440	5.5	0.7	3.0	8.9	16.3	22.4	23.3	16.5	6.0	
1984 .....	13,527	47	301	910	2,162	3,792	3,928	2,001	384	5.7	0.7	3.0	9.7	17.1	23.6	23.1	14.8	6.2	
1983 .....	13,843	37	342	985	2,343	4,046	3,790	1,903	394	5.9	0.9	3.4	10.5	18.3	23.1	22.6	15.6	6.5	
1982 .....	13,876	56	325	981	2,389	4,052	3,880	1,833	358	6.0	0.8	3.5	10.7	18.4	24.0	22.3	14.7	6.6	
1981 .....	14,712	49	321	1,084	2,657	4,343	4,090	1,787	378	6.4	0.8	4.1	11.8	19.8	25.7	22.4	16.1	7.1	
1980 .....	14,792	65	314	1,104	2,935	4,444	3,906	1,687	331	6.5	0.8	4.3	12.9	20.4	25.0	21.7	14.6	7.2	
1979 .....	14,540	62	333	1,222	3,009	4,313	3,755	1,551	293	6.5	0.9	4.9	13.1	20.1	24.5	20.4	13.5	7.2	
1978 .....	13,597	80	315	1,117	2,909	4,085	3,395	1,396	295	6.1	0.9	4.6	12.5	19.4	22.7	18.9	14.2	6.8	
1977 .....	13,911	77	357	1,184	3,104	4,199	3,389	1,353	245	6.3	1.1	5.0	13.3	20.3	23.1	18.7	12.4	7.1	

**Table 3.** Age-specific number of deaths, age-specific death rates, and age-adjusted death rates<sup>1</sup> from liver cirrhosis with and without mention of alcohol, United States, 1970–2002. (Continued)

Liver cirrhosis subcategory and year	Number of deaths, by age group									Deaths per 100,000 population, by age group									Age-adjusted deaths per 100,000 population
	All <sup>2</sup>	0–24	25–34	35–44	45–54	55–64	65–74	75–84	85+	All	25–34	35–44	45–54	55–64	65–74	75–84	85+		
1976 .....	14,072	81	330	1,265	3,268	4,342	3,272	1,247	262	6.5	1.0	5.5	13.8	21.3	22.9	17.7	14.0	7.3	
1975 .....	14,142	101	288	1,273	3,345	4,409	3,240	1,248	236	6.6	0.9	5.6	14.1	22.0	23.2	17.9	12.9	7.4	
1974 .....	15,143	111	356	1,453	3,655	4,653	3,433	1,247	232	7.1	1.2	6.4	15.4	23.5	25.2	18.3	13.4	8.1	
1973 .....	15,385	105	350	1,585	3,798	4,766	3,320	1,230	229	7.3	1.2	7.0	16.0	24.4	25.0	18.5	14.0	8.3	
1972 <sup>3</sup> .....	14,860	94	366	1,608	3,774	4,540	3,002	1,262	212	7.1	1.3	7.1	16.0	23.5	23.0	19.5	13.6	8.2	
1971 .....	14,555	128	316	1,495	3,818	4,417	2,947	1,212	217	7.0	1.2	6.5	16.2	23.2	23.1	19.2	14.6	8.1	
1970 .....	14,672	146	326	1,618	3,727	4,426	2,970	1,231	225	7.2	1.3	7.0	16.0	23.7	23.8	20.0	15.9	8.3	

<sup>1</sup>□ Rates per 100,000 population computed by direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 2000.

<sup>2</sup>□ Includes deaths in which age of decedent was unknown; age-specific numbers of deaths may not sum to total.

<sup>3</sup>□ Deaths based on a 50-percent sample.

**Table 4.** Age-adjusted death rates<sup>1</sup> from liver cirrhosis with and without mention of alcohol by sex, race, and Hispanic origin<sup>2</sup>, United States, 1970–2002.

Liver cirrhosis subcategory and year	All races/ origins and both sexes	Male						Female							
		White			Black			White			Black				
		All <sup>3</sup>	Hispanic	Non- Hispanic	All <sup>3</sup>	Hispanic <sup>4</sup>	Non- Hispanic	All <sup>3</sup>	Hispanic	Non- Hispanic	All <sup>3</sup>	Hispanic <sup>4</sup>	Non- Hispanic		
Alcohol-related cirrhosis	2002 .....	4.2	6.5	12.9	5.8	5.8	2.4	5.9	2.2	2.2	2.2	2.3	0.7	2.3	
		2001 .....	4.3	6.6	14.2	5.9	6.9	0.6	7.1	2.2	2.4	2.2	2.4	0.3	2.4
		2000 .....	4.3	6.8	15.0	6.1	6.9	1.2	7.1	2.0	2.2	2.0	2.8	0.2	2.8
		1999 .....	4.4	6.8	14.1	6.2	8.1	2.0	8.2	2.0	2.5	2.0	2.8	0.3	2.8
		1998 .....	4.4	6.8	15.0	6.1	8.1	1.8	8.2	2.1	2.2	2.1	2.6	0.6	2.6
		1997 .....	4.5	7.0	15.5	6.2	8.4	3.1	8.5	2.2	2.7	2.1	3.2	—	3.2
		1996 .....	4.7	7.1	16.8	6.3	9.5	3.3	9.7	2.2	2.6	2.2	3.5	0.5	3.6
		1995 .....	4.8	7.3	17.7	6.4	10.4	0.9	10.5	2.2	2.6	2.1	3.7	0.4	3.8
		1994 .....	4.9	7.3	18.5	6.5	11.7	2.6	11.8	2.2	2.9	2.2	4.1	0.8	4.1
		1993 .....	4.8	7.1	17.7	6.2	11.3	3.5	11.3	2.2	2.9	2.1	3.8	0.7	3.8
		1992 .....	4.9	7.4	18.0	6.5	12.5	4.5	12.5	2.2	2.6	2.1	4.3	0.3	4.4
		1991 .....	5.0	7.3	17.4	6.4	12.5	4.7	12.6	2.2	3.1	2.1	5.1	1.2	5.2
		1990 .....	5.2	7.4			14.7			2.3			5.4		
		1989 .....	5.4	7.8			15.5			2.3			5.4		
		1988 .....	5.2	7.4			15.6			2.3			5.7		
		1987 .....	5.1	7.2			15.7			2.2			5.2		
		1986 .....	5.0	7.1			14.7			2.3			5.3		
		1985 .....	5.2	7.2			16.2			2.3			5.9		
		1984 .....	5.3	7.5			14.8			2.5			5.8		
		1983 .....	5.2	7.3			13.9			2.5			5.7		
		1982 .....	5.4	7.6			14.2			2.6			5.8		
		1981 .....	5.9	8.1			16.9			2.9			6.5		
		1980 .....	6.4	8.7			18.8			3.1			7.5		
		1979 .....	6.3	8.5			18.5			3.1			7.3		
		1978 .....	6.5	8.7			18.5			3.2			8.1		
		1977 .....	6.7	8.9			20.1			3.4			8.0		
		1976 .....	7.0	9.3			20.8			3.4			8.4		
		1975 .....	6.9	9.3			19.5			3.3			8.0		
		1974 .....	7.1	9.5			19.4			3.5			8.3		
		1973 .....	6.9	9.3			18.4			3.4			8.2		
		1972 <sup>5</sup> .....	7.0	9.3			19.5			3.5			8.0		
		1971 .....	6.6	9.0			17.4			3.3			8.0		
		1970 .....	6.3	8.5			17.0			3.1			7.9		
Other specified cirrhosis	2002 .....	0.6	0.4	0.4	0.4	0.4	—	0.4	0.7	1.3	0.6	0.5	0.2	0.5	
		2001 .....	0.5	0.3	0.4	0.3	0.3	—	0.3	0.6	1.0	0.6	0.5	0.1	0.5
		2000 .....	0.5	0.3	0.3	0.3	0.4	0.1	0.4	0.7	1.1	0.6	0.5	0.2	0.6
		1999 .....	0.5	0.4	0.4	0.4	0.5	—	0.5	0.7	1.0	0.6	0.6	0.2	0.6
		1998 .....	0.4	0.4	0.5	0.4	0.5	—	0.5	0.5	0.9	0.5	0.4	0.3	0.4
		1997 .....	0.5	0.4	0.4	0.4	0.6	—	0.6	0.5	0.7	0.5	0.4	0.3	0.4
		1996 .....	0.5	0.4	0.5	0.4	0.7	0.3	0.7	0.5	0.7	0.5	0.5	—	0.5

**Table 4.** Age-adjusted death rates<sup>1</sup> from liver cirrhosis with and without mention of alcohol by sex, race, and Hispanic origin<sup>2</sup>, United States, 1970–2002. (Continued)

Liver cirrhosis subcategory and year	All races/ origins and both sexes	Male						Female					
		White			Black			White			Black		
		All <sup>3</sup>	Hispanic	Non- Hispanic	All <sup>3</sup>	Hispanic <sup>4</sup>	Non- Hispanic	All <sup>3</sup>	Hispanic	Non- Hispanic	All <sup>3</sup>	Hispanic <sup>4</sup>	Non- Hispanic
1995 .....	0.5	0.4	0.5	0.4	0.7	—	0.8	0.6	0.8	0.5	0.5	—	0.6
1994 .....	0.5	0.5	0.8	0.4	0.7	—	0.7	0.6	0.9	0.5	0.6	0.3	0.6
1993 .....	0.6	0.6	0.7	0.6	0.9	—	0.9	0.6	1.1	0.6	0.7	—	0.7
1992 .....	0.7	0.6	0.8	0.6	1.2	—	1.3	0.7	1.1	0.7	0.8	—	0.8
1991 .....	0.8	0.7	0.7	0.7	1.2	—	1.2	0.7	0.9	0.7	0.9	—	0.9
1990 .....	0.8	0.7			1.3			0.7			0.9		
1989 .....	0.8	0.8			1.5			0.8			0.8		
1988 .....	0.9	0.9			1.4			0.8			1.1		
1987 .....	1.0	1.0			2.0			0.9			1.2		
1986 .....	1.0	0.9			1.6			0.8			1.3		
1985 .....	1.1	1.1			2.6			1.0			1.3		
1984 .....	1.2	1.1			2.6			1.0			1.7		
1983 .....	1.2	1.1			2.9			1.0			1.8		
1982 .....	1.3	1.2			3.5			1.1			1.8		
1981 .....	1.3	1.2			3.8			1.0			2.1		
1980 .....	1.5	1.4			4.7			1.1			2.5		
1979 .....	1.4	1.3			4.6			1.1			2.4		
1978 .....	1.9	2.0			5.2			1.3			2.9		
1977 .....	2.0	2.1			6.3			1.4			3.2		
1976 .....	2.2	2.3			5.7			1.5			3.1		
1975 .....	2.4	2.6			6.4			1.8			3.2		
1974 .....	2.7	3.0			7.8			1.8			4.4		
1973 .....	2.9	3.2			8.0			2.0			4.6		
1972 <sup>5</sup> .....	2.9	3.2			7.8			2.0			4.0		
1971 .....	3.0	3.5			6.7			2.1			4.0		
1970 .....	3.1	3.6			7.0			2.3			4.3		
Unspecified cirrhosis													
2002 .....	4.9	6.5	10.6	6.2	6.1	2.5	6.1	3.7	6.1	3.5	3.1	0.9	3.1
2001 .....	4.9	6.5	10.4	6.1	6.8	2.3	6.9	3.6	5.9	3.5	2.9	0.9	2.9
2000 .....	4.8	6.5	10.4	6.2	6.4	1.9	6.5	3.5	6.5	3.3	3.1	1.6	3.1
1999 .....	4.9	6.6	10.7	6.2	6.6	1.5	6.7	3.5	6.2	3.3	3.2	1.1	3.2
1998 .....	4.6	6.0	10.4	5.7	6.4	1.1	6.4	3.4	6.0	3.2	2.9	1.1	2.9
1997 .....	4.6	6.0	10.0	5.8	6.6	3.6	6.6	3.3	6.5	3.1	3.1	2.0	3.1
1996 .....	4.5	6.1	11.2	5.8	6.5	2.6	6.6	3.3	6.1	3.1	3.0	1.2	3.0
1995 .....	4.6	6.2	10.5	5.9	6.8	1.5	7.0	3.2	6.0	3.1	3.3	1.8	3.3
1994 .....	4.7	6.3	10.7	6.0	6.9	1.2	7.0	3.4	6.1	3.2	3.6	1.1	3.6
1993 .....	4.9	6.5	10.7	6.2	7.3	1.6	7.5	3.5	5.8	3.3	3.8	0.6	3.8
1992 .....	4.8	6.6	10.4	6.3	7.3	2.4	7.5	3.4	6.5	3.2	3.4	0.5	3.5
1991 .....	5.0	6.7	10.6	6.4	7.2	1.5	7.3	3.6	6.5	3.4	4.1	0.9	4.1
1990 .....	5.2	6.9			8.0			3.6			4.3		
1989 .....	5.4	7.3			8.5			3.8			4.3		
1988 .....	5.6	7.7			8.5			3.7			4.7		
1987 .....	5.7	7.7			9.2			3.8			4.5		

**Table 4.** Age-adjusted death rates<sup>1</sup> from liver cirrhosis with and without mention of alcohol by sex, race, and Hispanic origin<sup>2</sup>, United States, 1970–2002. (Continued)

Liver cirrhosis subcategory and year	All races/ origins and both sexes	Male						Female					
		White			Black			White			Black		
		All <sup>3</sup>	Hispanic	Non- Hispanic	All <sup>3</sup>	Hispanic <sup>4</sup>	Non- Hispanic	All <sup>3</sup>	Hispanic	Non- Hispanic	All <sup>3</sup>	Hispanic <sup>4</sup>	Non- Hispanic
1986 .....	5.9□	8.0			9.1			4.0			4.5		
1985 .....	6.0□	8.1			9.5			4.1			5.0		
1984 .....	6.2□	8.5			9.6			4.2			4.9		
1983 .....	6.5□	8.9			10.3			4.3			5.3		
1982 .....	6.6□	9.2			9.7			4.3			5.3		
1981 .....	7.1□	9.7			11.2			4.7			6.2		
1980 .....	7.2□	9.8			12.0			4.7			6.5		
1979 .....	7.2□	9.9			12.6			4.7			6.0		
1978 .....	6.8□	9.5			12.3			4.3			5.8		
1977 .....	7.1□	9.9			12.4			4.4			6.5		
1976 .....	7.3□	10.1			12.7			4.6			6.3		
1975 .....	7.4□	10.4			13.3			4.6			6.8		
1974 .....	8.1□	11.0			14.0			5.2			7.2		
1973 .....	8.3□	11.4			14.4			5.2			8.2		
1972 <sup>5</sup> .....	8.2□	11.2			15.0			5.0			8.0		
1971 .....	8.1□	11.0			13.0			5.3			7.3		
1970 .....	8.3□	11.2			13.5			5.4			7.9		

— There were no deaths in this table cell.

<sup>1</sup> Rates per 100,000 population computed by direct method, using as the standard population the age distribution of the total population of the United States as enumerated in 2000.

<sup>2</sup> Excludes deaths for which Hispanic origin was unknown and all 1991 through 1996 deaths from Oklahoma and New Hampshire where Hispanic origin was unknown in more than 90 percent of all cirrhosis deaths. Data on Hispanic origin not shown for years earlier than 1991.

<sup>3</sup> Includes deaths for which Hispanic origin was unknown.

<sup>4</sup> Rates are not reliable due to the small number of cirrhosis deaths among Black Hispanics.

<sup>5</sup> Deaths based on a 50-percent sample.